

Proceedures

of

JOHN ROBERTS PHILLIPS, M.D.

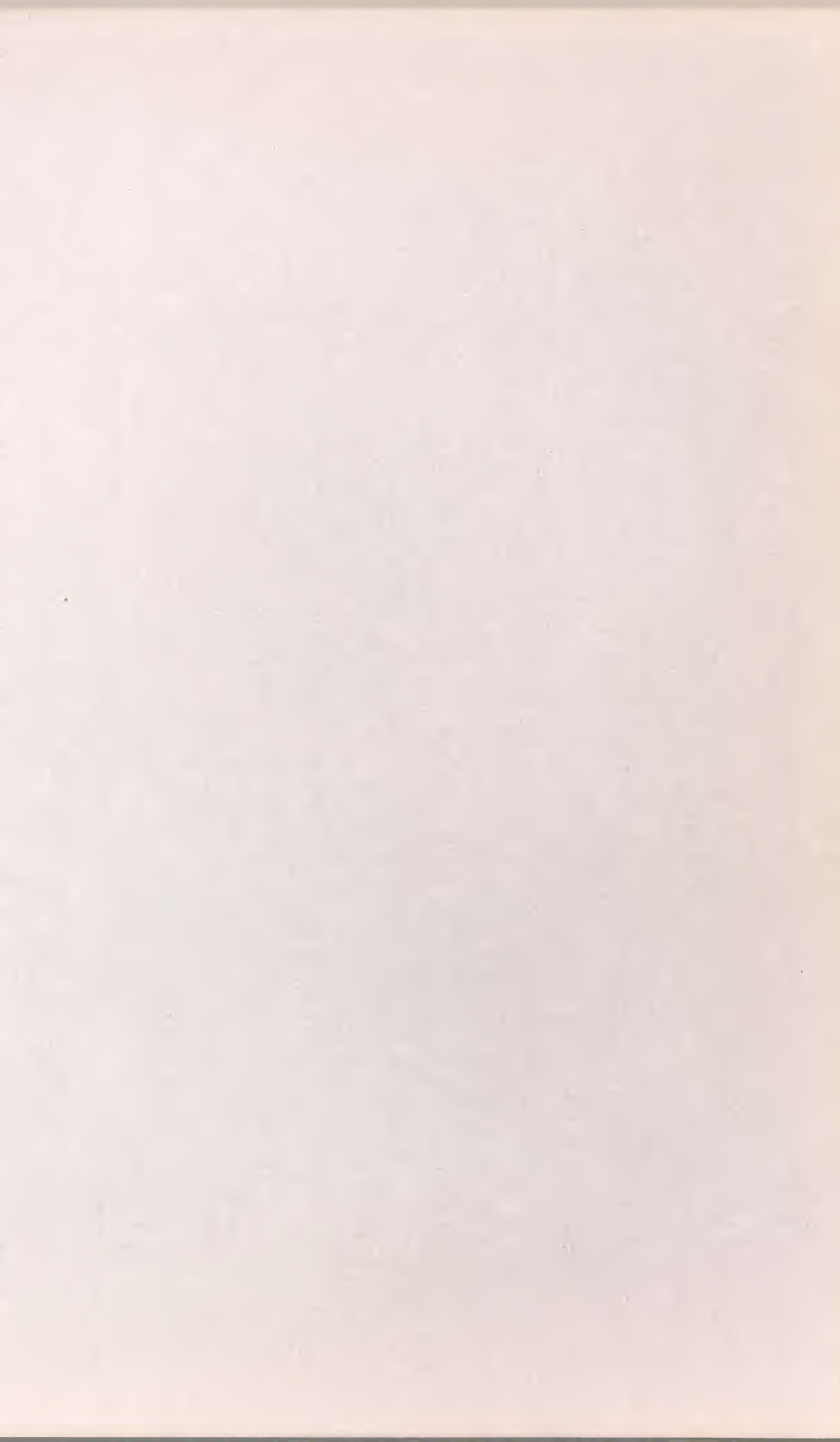
GENERAL SURGEON

Houston, Texas

compiled by

REBECCA HALL PHILLIPS, R. N.

December 14 1957



Especially for the teaching of residents
at ST. JOSEPHS HOSPITAL
following a request made by

M. L. POWERS, M. D.

Resident

St. Josephs Hospital

Houston, Texas





DR. JOHN ROBERTS PHILLIPS, M. D.

HOUSTON
TEXAS

DR. JOHN ROBERTS PHILLIPS

Place and date of birth: February 28, 1904, Quantico, Md.
Father: Mr. Andrew B. Phillips (deceased)
Mother: Mrs. Olivia Roberts Phillips (deceased)
Premedical education: St. Johns College, B.A. 1923
Medical education: Univ. of Maryland, School of
Medicine, Graduated 1927 - M.D.
University of Minnesota, M.S. in
Surgery, 1931.
Baltimore City Hospital 1926-27.
University of Maryland Hospital
from 1927-1929.

Master of Surgery:

Internship:
Resident:

Four year Fellowship: Mayo Clinic, Rochester, Minnesota.
1929-1933. Was the second lst.
Assistant to Dr. C. W. Mayo.
In his last year at Mayo Clinic, he
was First Assistant to the late
Dr. E. Starr Judd.

Licenses: State of Maryland, 1927.
State of Minnesota, 1929
State of Delaware, 1933
State of Texas, 1933

Teaching Appointments: Associate Professor of Surgery,
Post graduate School, Univ. of
Texas.
Assistant Professor of Surgery,
Baylor University, Houston, Texas.

Hospital Memberships: Memorial Hospital, Houston, Texas.
Methodist Hospital, Houston, Texas
St. Josephs Hospital, Houston, Texas.
St. Elizabeths Hospital, Houston.
Houston Negro Hospital.
Houston Tuberculosis Hospital.

Practice: General Surgery.
Thoracic and gynecological surgery.

Marital Status: Married Rebecca Hall Phillips, R.N.,
daughter of Harry Hall and Goldie
Wyre Hall, in Jan, 1929.
Father of three children: Mrs.
Harry L. Thomas (Dana)

Marital Status:
(Cont'd)

Mrs. Harvey McLean Williams, Jr.
(Sandra Ann) and John Roberts
Phillips, Jr.
Two grandchildren: Janet Carol
Thomas and Catherine Lynn Thomas.

**Membership in Medical
Societies:**

Harris County Medical Society
Texas Medical Society.
American Medical Association.
Southern Medical Association.
American College of Chest Physicians
American College of Gastro -
Enterology.
American Tudeau Society.
Phi Chi Benefit Assoc. Pres. 1943.
Diplomat American Board of Surgery.
Diplomat International College of
Surgeons.
Past President: Texas Chapter Mayo
Alumni Association.
Shrine Cripple Children Work.

Church Membership:

Central Presbyterian Church, U.S.A.
5213 Montrose Blvd.
Houston, Texas

Membership in Clubs:

Kiwanis Club. Houston Club.
Cork Club. Houston Yacht Club.
Elva A. Wright Auxiliary - Men's
Patron Div. to the Houston Tuber-
culosis Hospital (co-chairman)
Arabian Temple. Elks Club.

HOBBY:

Crow shooting and calling.
National doubles champion, 1952,
1953, 1954.
National crow calling champion, 1951
National Singles Champion, 1957.
National Doubles Champion, 1957
(Dr. Phillips and son - John Roberts
Phillips, Jr.)

Author:

Author and co-author of some 90
articles published in various
medical journals.

Central Presbyterian Church

5213 MONTROSE BOULEVARD
HOUSTON, TEXAS



To those who are young and need counsel; to all who are strong and want a task; to those who are thwarted and need courage; to all who are lonely and want companionship; to all who are sinful and need a Saviour; this Church opens wide its doors and in the name of Christ our Lord, says: "Welcome."

REV. JOHN D. CRAIG, *Minister*

REV. J. ELMER FERGUSON, D. D., *Minister Emeritus*

The Evangelical Theological Seminary, Matanzas, Cuba

THE REV. ALFONSO RODRIGUEZ, *President*

THE REV. and MRS. EUGENE W. LEE, *Missionaries in Venezuela*

MISS JOYCE KIRKMAN, *Director of Christian Education*

Secretary,

MRS. HARRY P. RIGGS

Church Visitor,

MRS. O. F. BARTINE

Director of Music,

MR. EDWARD BING

Organist,

MRS. J. FRANK WHITLEY

CALVIN S. REESE, *Custodian*

WHERE DR. J. R. PHILLIPS
AND HIS FAMILY ATTEND CHURCH

THE
CALENDAR
OF
A
PHYSICIAN

January
Judgment

February
Friendship

March
Merit

April
Actions

May
Motives

June
Jealousy

July
Joy

August
Affection

September
Strength

October
Opportunity

November
Nature

December
Duty

QUALITIES
OF
A
PHYSICIAN

HONESTY
LOYALTY
THOROUGHNESS
DETAIL
COMPLETENESS
ATTITUDE
MEMORY
FAIRNESS
AND
CONFIDENCE



**THE DOCTORS' CLUB
OF HOUSTON, TEXAS**

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PROGRAM FOR DECEMBER

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**ZETA
of
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MEDICAL
FRATERNITY**



FOUNDED BY DR. MAX THOREK

HARRIS COUNTY MEDICAL SOCIETY
229 Medical Arts Bldg.,
March 13, 1946 - 8:00 P.M.

PAPER: - "Non infectious Iliopectineal Bursitis" -
Dr. Denman C. Hucherson - Dr. Frank Denman.

PAPER: - " Spleenectomy - 10 Years Study of Cases in Houston"
Technique of Operation - Motion Picture.
Dr. John R. Phillips - Dr. J. N. Bevil.

Mylie E. Durham, President
H. L. Alexander, Secretary
J. Wade Harris, Program Chairman

Dues now due and payable (\$37.50)

JUST A FEW OF THE ORGANIZATIONS DR. J. R. PHILLIPS
IS ACTIVE IN

NEWS ITEM!

Note the amount of the dues in 1946



*University of Maryland School of Medicine
and College of Physicians and Surgeons*
Organized in 1807, this is one of the oldest
medical institutions in the country.



WHERE DR. J. R. PHILLIPS WAS A RESIDENT



St. John's main hall, where Francis Scott Key attended classes, was once the mansion of the King's Colonial Governor of Maryland. Also on the campus is Maryland's Liberty Tree.

ST. JOHN'S COLLEGE, WHERE
DR. J. R. PHILLIPS
OBTAINED HIS
PREMEDICAL EDUCATION



WHERE DR. & MRS. JOHN ROBERTS PHILLIPS WERE MARRIED

Alexandria, Va. Six miles south of Washington on the Virginia side of the Potomac is the quaint city of Alexandria. It is a place rich in historical associations and decidedly worth a visit. An outstanding point of interest is Christ Church, built in 1773, where Washington was a vestryman, and the large double pew he occupied with his family is now marked by a silver plate.



WHERE DR. J. R. PHILLIPS WAS THE
SECOND FIRST ASSISTANT TO
DR. C. W. MAYO. MAYO CLINIC
ROCHESTER, MINN. 1929-1933

This towering structure of brick and steel was the result of a life's work of Dr. Charles H. Mayo, his brother and others of the medical profession who brought fame to Rochester. Although his health was poor in his last months, Dr. Mayo continued to go to his offices in the building frequently, often daily, as well as visit hospitals.



RECENT PICTURES OF
DR. JOHN ROBERTS PHILLIPS, M. D.
AND MRS. REBECCA HALL PHILLIPS





DAUGHTER SANDRA ANN, NOW
MRS. HARVEY McLEAN WILLIAMS JR.



SON
JOHN ROBERTS, JR.



DAUGHTER DANA, NOW
MRS. HARRY L. THOMAS





PROUD GRANDPARENTS....CATHERINE LYNN THOMAS
NOW FOUR YEARS(BORN AT ST. JOSEPHS HOSPITAL)



GRANDDAUGHTERS
JANET CAROL THOMAS AND
CATHERINE LYNN THOMAS

BELOW..CATHERINE LYNN



OFF DUTY HOURS...!



the HOUSTON *clubber*



Enjoying one of the club's recent family night functions are left to right above Harry Bailey, Mrs. Russell Nix, Mrs. H. B. Pollard and Mrs. J. R. Phillips.



FROM TEXAS " WHO'S WHO" ...1958 EDITION

PHILLIPS, Rebecca Hall, R.N. b. Northeast Md., m.
Dr. John Roberts Phillips, b. Quantico, Md.
Children: Mrs. Harry Thomas (Dana), Sandra Ann and
John Roberts, Jr. Profn: Reg. Nurse, Surg. Nurse
of Univ. of Md., '27-29. Nurse at Mayo Clinic from
'27-33. Surg. Nurse and Office Mgr. for
Dr. John Roberts Phillips. Att. Univ. of Md.
Dana att. Rice Inst. Sandre att. Univ. of Texas
Mem. Amer. Red Cross, Texas Grad Nurses Assn.,
Women's Aux. Harris Co. Med. Soc., Kiwanitas
(Vice Pres., '57); Charter Mem. of Internatl., Col.
of Surgeons Women's Aux. Life Mem. Elva A. Wright Aux
of Houston T B Hospital; Recording Secy. to Men's Patron
Div. of Elva A. Wright Aux. Past Mem. Speakers Inst.
of Houston, Reciprocity Bd. of Nurses Examiner of Md.,
Texas and Minn.
Res. 5806 Bayou Bend, Houston, Texas. Phone JA 9-0026
Bus. Add. 407 Med. Arts Bldg., Houston, Texas



The Houston Press
FRIDAY, MAY 24, 1957



FLORENCE NIGHTINGALE

From the painting by Frederic Roscher (1946)
Courtesy, Hospital Division, Johnson & Johnson

"She applied the principles of hygiene to hospital administration and brought light, cleanliness and order out of indescribable chaos and misery. The 'Lady with the Lamp' at Scutari showed what a hospital should be and what scientific nursing should mean." "Textbook of Surgical Nursing," by Colp and Keller.

Servant of the Sick

Her Nightingale Cap Is Hanging in The Hall of Fame

Rebecca Jane Phillips has dedicated her life to nursing sick folks, and her labors of mercy have been richly rewarded, both with the good things of life that are the reward of success, and with honors from her fellow medics.

The greatest was being admitted to the Hall of Fame of the International College of Surgeons, where the Florence Nightingale cap she wore when she was graduated hangs in memory of her work.

The most recent was a plaque for outstanding service, given her by the Eva A. Wright Auxiliary of the Houston Tuberculosis Hospital.

When she was only seven, Rebecca Jane Hall dreamed of being a nurse. Always her dolls were patients or other nurses and her playmates were members of the hospital staff.

When she grew up, she attended the University of Maryland College of Nursing, and there she met the medic with whom she teamed for the rest of her life—until now at least.



MRS. PHILLIPS

Stood Side by Side

She and Dr. John Roberts Phillips stood side-by-side in the graduating class of the University of Maryland in 1927. That's the way they've been ever since.

She became a surgical nurse and he an interne at the University of Maryland Hospital, where they worked together for two years.

They married then and went Mayo's Clinic in Rochester, Minn., where he was on the surgical staff and she was a surgical nurse.

They've worked together ever since, and her duties as wife and nurse assistant have increased to include receptionist, office manager and public relations director.

As if all those duties weren't enough, Mrs. Phillips also does a lot of volunteer nursing, in all of Houston's hospitals, but particularly in the Tuberculosis Hospital, where volunteer nursing care is most sorely needed.

So Many Texans There

When Dr. Phillips and his No. 1 nurse moved from Mayo's Clinic in Rochester, they packed their belongings in a trailer truck and headed for Texas.

"Some of my friends asked me why I wanted to take some of the stuff all the way to Texas," Mrs. Phillips said. "I told them that I wasn't sure I could find everything we needed in Texas.

"We decided to move to Texas because there were so many Texas patients at Mayo's. There were so many Texans that I often wondered if they had any doctors in Texas.

"We could envision a state full of sick folks looking for a doctor and a nurse. The Texans were a lot healthier than we surmised but we were always glad we came.

"We have three children, and I used to get lots of criticism for going back to work soon after the babies came, but I never could stand to be away from my job any longer than was necessary."

DR. PHILLIPS ALWAYS SAYS....

"STRETCH THAT CATGUT!"



Crow Hunt, Texas Style

By BERT POPOWSKI

OFF DUTY HOURS....!

Reprinted from
Field & Stream
Magazine

FEBRUARY 1951 ISSUE

DR. JOHN ROBERTS PHILLIPS
407 MEDICAL ARTS BLDG.
HOUSTON 2, TEXAS



Decoys placed in the scrub-oak thicket which concealed this blind attracted plenty of targets

Crow Hunt, Texas Style

By BERT POPOWSKI

TEXANS are often accused of gross exaggeration. Actually, the Lone Star State isn't as large as the rest of the United States and Canada combined. If you live in Port Arthur, you don't have to start on July 4 in order to spend Christmas with friends in Amarillo. But when Texans claim to have the greatest winter crow concentrations in the nation, they speak the unqualified truth. The moderate winter climate, abundance of river-bottom roosting verdure and, most important, the tremendous peanut, rice and corn feeding fields produce a crow haven second to none.

The best crow-shooting in Texas runs from mid-November to mid-February. Before and after those dates the black brigands are migrating to and from Texas, and are concentrated more heavily in states farther north. These migratory habits correspond quite closely to those of various species of wild ducks, which the crows follow to Canada. There

the loss of wild duck eggs and ducklings through crow predation runs into the millions—a loss that has been estimated at between four and five times as many webfeet as are annually harvested by the guns of all Canadian, American and Mexican sportsmen combined.

So when Dr. John Roberts Phillips of Houston phoned me, inviting me to fly down to shoot crows for a solid week, it took me only one long breath to make up my mind. "Sure!" I said without hesitation and phoned the airport.

I found the doctor a big, bluff, fun-loving individual.

"I've everything ready," he assured me. "We'll take a colored boy to help pack in the blind and shells, to keep an eye on how the crows are moving and concentrating during the day, and to take the car and the trailer away from the blinds we set up. We ought to be ready to shoot at daybreak, when the crows first hit the feeding fields for breakfast," announced my partner.

Obviously, Texans don't hunt crows as we do in the northerly and mid-Western States. Instead of waylaying them along the flight lines leading to their nocturnal roosts, the crow shooters set up in the feeding fields—peanuts, rice or corn—and gun crows there until mid-afternoon. By that time the black birds are full fed and, road conditions and proximity of roosts permitting, a new set-up is made near the roost and the shooting goes on until dusk drops the curtain.

The feeding fields are immense, and the crow hordes using them must be seen to be believed. Because these fields are as barren of cover as a billiard table, portable blinds must be used, so that they can be quickly shifted from one concentration area to another. But let's go crow hunting, Texas-style.

At the duck-hunting hour of 4:45 A.M. I was routed out of bed. The trailer hitched behind the car was piled high with pine saplings, some bundles of blind material and several empty shell

cases. There were also a dozen or more crow cadavers, not yet objectionably ripe but heading in that direction. I resolved to hold my tongue and let all this equipment explain itself.

It was foggy as we drove across Houston and hit the open highway, foggy and milk-warm. Thirty miles on our way we found an all-night restaurant, stuffed ourselves full of bacon and eggs, toast and coffee, and went on. A dozen more miles of blacktop, and we turned off on a gravel road, drove another half mile, then pulled up and unloaded. As far as I could tell, in that thick fog, we were somewhere in Texas!

First, we set up the blind, a 15-foot strip of one-inch mesh which had been sprayed with glue, coated with chicken feathers, then sprayed with a dull green paint. Originally it had been six feet wide, but the top two feet had been bent over to double its camouflaging effect over half its final width of four feet. Set up on edge, around supporting stakes—Texans call them “stobes”—it made an enclosure in which three gunners had ample room.

Around this enclosure were planted the pine saplings, their butts sharpened so that they could be twisted into the soft earth to simulate a tiny evergreen

Shooting crows in the

Lone Star State can be a

bird-a-minute proposition

with always the chance of

establishing a new record

thicket, thick enough to break the solid outlines of the chicken-wire framework, yet open enough to readily see incoming crows. Finally the guns were brought into the enclosure, empty shell cases placed on end to serve as seats, and a case of ammunition set out in readiness.

The crow cadavers were scattered around the blind as decoys. Some were mounted on adjacent fence posts, with a nail driven through the beaks, so that they hung in lifelike poses. Others were mounted on weed stems on the ground to simulate feeding crows. Fresh-killed crows, left where they fell, would complete the decoy spread. A dead or crippled crow often attracts as much sympathetic attention as a staked-out live decoy.

(Continued on page 121)



Dr. Phillips (left) and Ernie Coker carrying a roll of chicken-wire camouflage



Setting pine saplings around the chicken-wire blind to help conceal the hunters

Bob Smith helps Dr. Phillips set out dead crows around the blind as decoys



We could hear crows sounding off in the thick fog as Louis, the colored boy, pulled away with the car and trailer. Then a small flock ghosted silently in on us while we were loading our guns. They didn't respond to the call, for they'd seen us, but when the next flock slid in we were ready and shelled out three birds.

"My first Texas crow," I observed, slipping a fresh load into my pet 12-gauge. "That brings my total to thirty states and Canadian provinces in which I've killed crows—twenty-seven states and three provinces."

Dr. Phillips was shooting a pair of semi-automatics—a 12 and a 16—and he used those corn-shellers with speed and precision. He turned out to be perpetual motion with the call. Once in the blind, he stuck that call in his face and did his level best to wear it out.

As visibility improved we were constantly busy. No sooner had we disposed of one flock than another drifted in range of the calls. The score mounted rapidly as more and more birds came in to breakfast in that rice-field. By the time the morning flight started to taper off we had scored on 112 "good" crows, birds that would never again rob a duck nest.

At the first let-up in the flight Dr. Phillips waved Louis in with the car, the blind was dismantled and loaded, and we were on our way to another feeding field some miles away. Crows were trading everywhere across the countryside, feeding and flying and watching us drive by.

This time it was peanuts. The ground was literally covered with the small goobers which are grown for various commercial purposes. Virtually all of that field's 100-odd acres were blanketed with feeding crows, and small flocks of them were trading back and forth in all directions.

We were set up and ready for action within ten minutes of arrival. Of course, near-by crows watched our preparations and moved away, but it took only minutes for the congregation to resume uninterrupted feeding. For better than an hour we shot at a crow-a-minute pace, even while eating the sandwiches and cokes which Louis had brought us. By then the bulk of the birds in the field had located us and our major shooting came from newcomers that passed within range of the call.

We picked up at two o'clock to set out on the trail of crows that were beginning to string out toward the roost. But the road grew steadily worse and finally wound up in a muddy farm-yard, with roost-bound crows flying so high that we knew they were still miles away from their destination, somewhere along the Brazos River bottoms. Buzzards were going to roost in the gathering twilight before we turned back on our 60-mile drive to Houston.

That's the way it was, from dawn to dark for nine action-packed days. Up before dawn and back at full dark. Our day-by-day kill read thus: 238, 178, 152, 149, 297, 305, 211, 181 and 130, for a daily average of 216. The personnel of our party of thirteen hunters—including Dr. Phillips and myself, who shot every one of the nine days—consisted of John Roberts Phillips, Jr., a nine-year-old marksman, who accounted for 21 of the total bag with his twin-barreled .410, Ernie Coker, David Kennedy, Dr. Marion Lawrence of Mercedes, R. E. (Bob) Smith, Dr.

B. A. Lawrence, Dr. Thomas R. Jones, Byron Johnson, Bob Fretz, Dr. S. P. R. Hutchins and Fred Waddell.

On three of our best days, when the kills totaled 252, 297 and 305, we timed our shooting pace, and on each day we hit shooting which produced over 100 crows in an hour and a half of shooting time. One of those days, when we were going along just below a bird-a-minute pace, we killed five out of one flock to get back on schedule. Another time, needing a pair to maintain a bird-a-minute pace, we wiped out a flock of four with as many shots in a perfect example of team shooting. And we estimated that there were fully a half hundred cases where we killed three birds out of a called flock and an uncounted number of one- and two-gun doubles.

I found Texas crows fully as wary as crows elsewhere, which is entirely natural, since they are the same crows that are hunted during the fall months in more northern states. But the Texas crows I saw didn't show me the evasive aerial tactics that I've encountered in shooting near roosts in Nebraska, Iowa, Pennsylvania, Ohio and elsewhere. Perhaps a part of this was due to the fact that we seldom had much wind during any of the nine days of gunning. In fact, the only time when we shot in temperatures below 60 degrees was the day we racked up 297. On that day the birds were much more active and traded back and forth so continuously that we constantly had new birds within range of the calls.

During the nine days we had clear weather only one day. The rest of the time we encountered fog in the mornings and wet roads underfoot. As a result, we never did have sufficient dry roads to properly follow the birds back to their roosts. Dr. Phillips is talking of getting a garden-sized tractor, in order to get into late-afternoon roost shoots, no matter how bad the roads. He intends to carry the tractor in a trailer with the blind material, so that he can hook up and go anywhere the crows are.

"What do you think a top-drawer pair of callers and shots, using separate blinds, could total in an unbeatable one-day kill?" he asked me while we were talking over the highlights of our intensive scatter-gunning.

Now, I have virtually never made a substantial kill lone-handed. Usually one or both of my boys are with me, or I am doing the bulk of the calling for other sportsmen. But Dr. Phillips has scored several notable one-man kills, topped by a one-day peanut-field shoot of 458 crows.

"I could have killed over 500 easily if I hadn't run out of shells and had to send Louis back to Houston for more ammunition," he said, and I believed him.

John, my eldest, and I once killed 527 birds in one afternoon at a flyway near a roost, coming out of that melee with a scant box of shells between us. On another occasion the late "Red" Watt, Frank Rusk, John and I totaled 556 in an action-filled afternoon when we hoarded our shells like misers. I don't know if those one-, two- and four-gun records have ever been topped; at least I've never heard of anyone beating them.

I have also done the calling on a three-gun shoot in which Elmer Smith of Minneapolis, Red Watt and I killed 1,223 crows in a solid week of shooting, though Elmer deserted us on the last two days, when we made our best kills. The week

averaged 175 crows per day, though the first four days we shot in the wake of a fresh fall of snow, which made it difficult to conceal our blinds.

The nine-day total was 1,941, averaging 216 per day. Our joint experiences in this shoot, and in hundreds of others in which we've participated, indicate that one caller-gunner can kill a higher daily average per gun than if two such gunners are shooting out of the same blind. Generally speaking, the larger the number of gunners per blind, the lower the average kill per gun.

Considering all these factors, we kicked Dr. Phillips' question around at some length.

"About 900 crows in a full day of shooting, from dawn to dark," I estimated. "It may take a lot of crow hunting, but one day it will be done, when the shooters blind up not too far away from a huge roost, catch the morning flight at its peak, then move into an area of concentrated feeding activity and shoot there until mid-afternoon, then hustle back to the flyway blinds to catch the peak of the shooting near the roost."

"It'll have to be a windy day?" he asked.

"With the wind blowing chiefly crosswise of the flight line, so the sound of guns won't alarm crows that haven't yet come within range of the call," I agreed. "And the shooters will have to be in blinds so far apart that they do not interfere with each other's calling or shooting."

"How about you and I doing it?" he suggested seriously.

"We might just do that," I agreed. "But it will have to be planned down to the last detail; it won't be done as a happy accident. We both know that two good caller-gunners can, under the proper conditions, shoot 250 crows apiece in peanut and rice feeding fields. That would leave only 100 birds apiece to kill out of the morning flight from the roost, and the same in an afternoon flyway."

If that top-drawer goal is ever reached, and it may be exceeded, it will be done in Texas. The Lone Star State's mild winter climate, its rich and abundant food-stuffs and its sheltering river-bottom timber are made-to-order to support a greater wintering population of crows than any other comparable area.

But even if you have the crows, you must have daylight in which to shoot them. During the time of peak winter concentrations the Houston area has over ten hours of daylight between sunup and sunset. That gives the Texans almost two more hours of good shooting light for this gargantuan chore than we have in Aberdeen, South Dakota.

If I were to try for such a record, I would do it sometime in December, the earlier in the month the better. By that time the crows would be on hand in uncounted millions, they would not yet have been rendered uncommonly gun-shy, for the major interest would still be on game birds, and only a small percentage would thus be exceedingly wary.

Finally, I think I would get some unsurpassed assistance from Dr. John Roberts Phillips of Houston. Whether he and I will set this new record I don't know, but I'd be willing to give odds that when it is set it will be established in Texas.

JOHN ROBERTS PHILLIPS, MD

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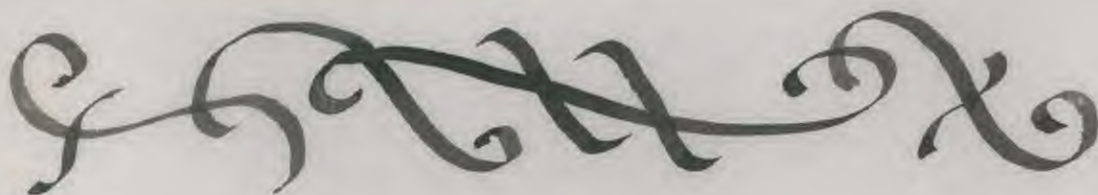
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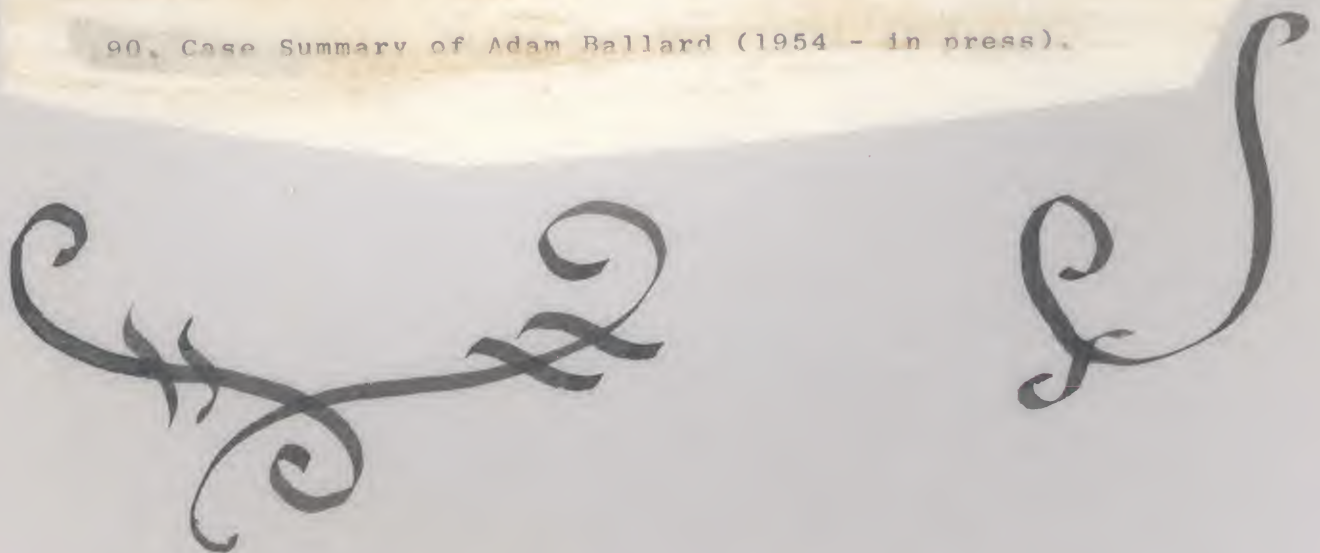


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SURGERY

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The Role of Splenectomy in Disorders of the
Spleen: Report of a Collected Series of
Sixty-five Cases

By:

John Roberts Phillips, M.D.
and
J. H. Bevil, M.D.
Houston, Texas



In 1940 the senior author reported a series of thirty-three splenectomies performed in Southeast Texas during the preceding ten year period (1). Studies of splenectomies performed during the last five years in the city of Houston, Texas, reveal several extremely interesting points. The present work will deal with the data obtained from sixty-five splenectomy cases which were reported in the larger hospitals of this city between the years of 1935 to 1945. Twenty-three of these are the cases of the senior author.

SPLENECTOMY CASES		
John Roberts Phillips, M.D.	1935 - 1945	Houston, Texas
DIAGNOSIS	NO. CASES	PER CENT MORTALITY
Ruptured spleens, traumatic	7	28% (2 cases)
Thrombocytopenic purpura	8	0%
Banti's disease	3	0% *
Splenomegaly (benign)	1	0% *
Congenital cystic spleen	1	0%
Total number of cases	23	

Corrected operative mortality: 8.7% (2 cases)

* One case of benign died 11 months post-operatively, and one case of Banti's disease died 12 months post-operatively of severe gastric hemorrhage. The other cases are all living and apparently are well.

The spleen is still one of the most interesting organs of the body. This is perhaps because it is involved in many abnormal conditions and also because there is still much uncertainty about its functions in health and about its role in many diseases. According to the most recent works in the physiology of the spleen, its chief functions are: (a) to act as a reservoir of blood; (b) to form monocytes and lymphocytes; (c) to phagocytose bacteria, white blood cells and platelets, and (d) to destroy erythrocytes, form bilirubin and store iron. Other functions, some as yet not definitely proven, are: regulation of blood cholesterol, production of an inhibitor of platelet formation, and some effect on the function of the bone marrow (2).

Changes in the body incident to splenectomy are transitory, and there are no known permanent effects. Splenectomy results in a mild temporary anemia, an elevation in the reticulocyte count, an increase in the resistance of the red blood cells to hypotonic saline solution, a rise in the platelet count and hyperplasia of the bone marrow (3).

Vague references to splenectomy are found in ancient Greek and Roman literature. In Pliny's "Natural History" the first definite statement about removal of the spleen is made. The first splenectomy on a human is recorded in 1543. During the next two centuries this organ was removed from patients suffering from injuries to the abdomen and the spleen. Wittenbaum, in 1923, was one of the first men to deliberately plan a splenectomy for disease of the spleen. The mortality in those early days was nearly one hundred per cent in nearly every series reported. Up to 1900 the disorders for which splenectomy was recommended consisted

chiefly of injuries and wounds of the spleen, torsions of an abnormal splenic pedicle, cysts and abscesses of the spleen, chronic malaria with great splenomegaly and splenic enlargements due to undiscoverable causes. The first series of successful splenectomies was reported in 1893 by Riegues. The largest collected series of that era was reported in 1898 by Vanverts who presented the records of 274 cases. One hundred seventy of these recovered from the operation, a recovery rate of 62%. Series of the present day sometimes show an even lower survival rate than that.

Splenectomy was performed for at least one of a group of five indications in this present series. In order of frequency, the diagnosis-indications were traumatic rupture of the spleen, some form of purpura, Banti's disease, some form of anemia or splenomegaly. The (corrected) frequency was, respectively, 24.61%, 23.15%, 13.84%, 9.0%, and 9.07% of the total number of cases. All other indications may be seen in the table below.

	<u>No. Cases</u>	<u>Died</u>	<u>% Died</u>
Ruptured spleen-----	16	3	50.00
Purpura-----	17	3	17.34
Banti's disease-----	9	5	55.55
Anemias-----	6	2	33.33
Splenomegaly-----	6	0	
Leukemia, lymphoid-----	1	1	100.00
Cystic hematomas of spleen-----	1	0	
Ptosed ("floating") spleen-----	1	0	
Lymphosarcoma-----	1	0	
Sarcoma-----	1	0	
Splenitis-----	1	0	
Hematomas, from adenocarcinoma of stomach-----	1	0	
Perisplenitis-----	2	0	
Phlebosclerosis-----	1	0	
Cystic spleen (type ?)-----	1	0	

The diagnoses generally held to be valid as indications for splenectomy and of decided value are Idiopathic Thrombocytopenic Purpura, Hemolytic Anemia of the Congenital Type, Splenic Anemia of Banti's Type, Primary Tumors of the Spleen and Traumatic Rupture of the Spleen (1). Other conditions for which splenectomy is not so universally performed but which might sometimes be of possible value, are Congestive Splenomegaly, Primary Neutrophilic Leukopenia, Enlarged Spleen, Acquired Hemolytic Anemia, Certain Types of Refractory Hemoplastic Anemia. Splenectomy is rarely justified in leukemia, lymphoma, pernicious anemia or Gaucher's disease. In these last mentioned conditions splenectomy may be done for relief of the symptoms produced by the enlargement of the spleen, but never is it done with the idea in mind of "curing" the disease process.

A few remarks pertaining to the diagnosis in the several more commonly seen conditions will be made here, but details of diagnosis will be found in text books of medicine and surgery under the headings mentioned above.

Rupture of the spleen is usually the result of violent trauma. The spleen has been known to rupture "spontaneously" in disease states that are associated with congestive conditions of this organ. Once a diagnosis of splenic rupture has been made, it is considered the wisest procedure to operate as soon as the patient is in good enough condition. In cases where it seems the hemorrhage has stopped, it is safest to go ahead and operate because of the danger of delayed or recurrent hemorrhage.

Idiopathic thrombocytopenic purpura is a disease whose functional pathology is believed to be the result of an over-activity of the reticulo-endothelial

cells of the spleen. Before a splenectomy is done in this instance, the diagnosis must be definitely established. Errors of diagnosis are most frequently made in cases of acute leukemia or aplastic anemia associated with hemorrhagic phenomena. In the secondary types of purpura due to the effect of drugs; or to the invasion of the bone marrow by leukemic cells, multiple myeloma or carcinoma cells; or as a part of the picture of hypoplastic or aplastic anemia, splenectomy is usually contraindicated. Clinical studies, as well as bone marrow studies, are most important in the differential diagnosis of these clinically similar disorders. The results following splenectomy for purpura hemorrhagica have been sufficiently satisfactory so that we are justified in advising splenectomy in any case where the disease is an inconvenience and has not responded to conservative measures (1).

Banti's disease is characterized by a progressive anemia with splenomegaly, leukopenia and thrombocytopenia. As the disease progresses, hepatic cirrhosis with jaundice and ascites appear. The risk of splenectomy in Banti's disease may be somewhat greater than in the other splenomegalies due to the intimate nature of the adhesions between the spleen and the diaphragm, and to secondary liver damage from cirrhosis. The result from the operation in these cases depends to a great degree upon the stage of the disease.

Use of the term "splenic anemia" has been the object of much well-deserved criticism during recent years. This name was formerly used to cover a wide variety of conditions. Recent recognition of the essential characteristics of each different disease has served to remove them from the all-inclusive diagnosis of splenic anemia. The pathological state of the spleen of a patient with

this so-called "splenic anemia" is similar to the spleen of Banti's disease, but the term splenic anemia should be used only for a syndrome when the known and discoverable etiologic agents have first been excluded. Cases of this type in this series were diagnosed as Idiopathic Hemolytic Anemia, Hemolytic Anemia, Familial Hemolytic Anemia or Hemolytic Intoxus.

The procedure followed in the operation in most of these cases was essentially the same, regardless of the operator or the indication for surgery. In most cases a left paramedian or left rectus muscle-splitting incision was preferred. There is some variance of opinion as to the type of incision which gives the best exposure of the spleen. Some advocate a transverse or obliquely transverse incision along the costal margin with resection of the lower costal cartilages (eighth, ninth and tenth) (8). The difficulty of performing this operation is determined by the condition of the patient, the amount of bleeding encountered and the extent of perisplenic adhesions. In the absence of adhesions and profuse or generalized bleeding, splenectomy becomes a comparatively simple problem if certain anatomic and physiologic principles are adhered to. When it can be done easily, the gastrocolic omentum is opened to expose the main trunks of the splenic artery and vein. These are tied just lateral to the tail of the pancreas, care being exercised not to include pancreatic tissue in the ligatures. If the gastrocolic omentum cannot be feasibly opened, the branches of the splenic vessels are tied first as they course in the gastrosplenic omentum. The larger branches in the liaseo-renal ligament are tied off next. It is not always a safe procedure to attempt to deliver the spleen first orally in order to get to the

pedicle vessels. Adhesions are tied and cut when they are met rather than freeing them by blunt dissection. After all bleeding points have been carefully controlled, the spleen is removed and a thorough inspection is made of the splenic bed. These cases are then closed in layers, and in most instances a drain is left in.

The complications that may arise from splenectomy are dependent to a certain extent upon the disease for which the operation is performed. Therefore, if many of these complications are to be anticipated and avoided, the correct diagnosis must be established before proceeding with the operation. Hemorrhage, infection, and thrombosis may follow any splenectomy. Hemorrhage may occur during operation, especially in the removal of a large congested spleen, when the capsule is torn by accident, if the pedicle has not been isolated and carefully tied. Care must be taken in securing hemostasis of the many bleeders in perisplenic adhesions. In cases where liver damage is evident or is suspected, it is wise to administer Vitamin K until the prothrombin clotting time is normal. If this precaution is not attended to, hemorrhagic generalized oozing occurs and hinders the operator very much. The only type of hemorrhage in these cases against which there can be no precautions taken is hemorrhage from ruptured varices in the stomach or esophagus; such hemorrhage may merely complicate the post-operative course or may prove to be fatal.

Infection as a complication of splenectomy occurs just as it may occur after any type of operation. If it does occur, it often becomes established in and around the sub-phrenic space, resulting in an abscess that will require drainage. It must be remembered that the splenic bed and the stomach pose that

nearly always occurs offer an excellent site for growth of bacteria. The value of hemostasis here becomes more evident than ever. Any sudden rises in temperature unaccompanied by obvious infection, such as in the respiratory tract, should lead one to suspect thrombosis. Such thrombosis may be either intrathoracic or in the lower extremities.

Thrombosis as a complication of splenectomy may be from two sources, either as a result of an infective process or as a result of a rapid rise in platelets which begins as soon as the splenic vein is tied. Thrombosis, when it does occur most often has its origin in this latter process. The platelet count may rise to as high as 8,000,000 in a very short time, therefore the platelet count should be checked frequently, and if it does reach as high a value as 1,500,000 some form of anticoagulant therapy should be instituted. Either Heparin by constant drip or the less cumbersome Heparin-Dicumarol method may be used. The former, when carefully controlled, is by far the safer of the two. Once thrombosis has spread down the splenic vein and into the rest of the portal system, all therapy is without avail. One must, therefore, have prevention as the goal in this situation. The signs considered to be prognostic of impending disaster are sudden fever, abdominal pain and leukocytosis, jaundice and abdominal distention. Patients who have had a splenectomy should have platelet counts done at intervals of six weeks for six months, thereafter at intervals of three months for three years. In this way, trouble may be anticipated and possibly averted at an early stage.

As seen in the table given above, the mortality in this collected series of cases was greatest in those done for ruptured spleen. It is also of interest to note here that we have no record of the so-called "spontaneous rupture"

which is appearing more frequently in recent literature. All cases in this series were traumatic conditions, ranging from such an accident as falling against stair banisters to gunshot wounds of the abdomen with multiple colon perforations, in addition to the extreme laceration of the spleen. In decreasing order of mortality, we find Ruptured Spleen, Banti's Disease, the Anemias, the Purpuras. There was only one case of Leukemia and one case of Seminoma, both cases dying from the effects of the condition for which surgery was done. The seminoma was an incidental finding in that case, the splenectomy being done for splenomegaly. Most of the cases of ruptured spleen that died were cases of gunshot wound of the abdomen with damages to the spleen. Two of the cases of anemia that died were later found to be essentially cases of leukemia, rather than anemia. Cases of purpura that died had either fulminating attacks at the time of surgery or suffered a severe exacerbation of the original disease soon after surgery.

It is of interest to note the extreme variation between the mortality rates in the hospitals that receive charity patients and those that receive private cases. At Jefferson Davis Hospital, a charity institution maintained by the City of Houston and Harris County, the over-all mortality in 14 cases of all types was 50%, whereas in the St. Joseph's Infirmary, a private hospital, the over-all mortality was approximately 12%. It is a point of general agreement that the mortality in cases of splenectomy should closely approximate 10% (1). The tables included in this paper demonstrate the comparative mortality in the various hospitals of this city which were consulted for the material in this collected series.

The mortality for the 13 cases of the senior author was 8.7%, i.e., 1 case. Both of these were cases of ruptured spleen, one, as mentioned above having multiple colon perforations. The mortality in cases done at the Mayo Clinic is almost 10%, also.

It is also of interest to note the relation between the passing of the years, the number of cases done each year and the change in mortality seen with this passing of time. The effects of experience gained and improvements in technique and care of the patient are certainly reflected in this study.

A grouping of the cases according to mortality and age reveals the following figures, along with the figures obtained by Curtis and Morris (8).

<u>Age Group</u>	<u>No. Cases</u>	<u>Mortality</u>	<u>Mortality by Curtis</u>
1-9 yrs	4	8.7%	16%
10-19	11	18.	18
20-29	14	25.	25
30-39	10	18.	14
40-49	12	16.	18
50-59	8	15.	15
60-69	1	1.68	7

As a result of this study, it has been learned that the mortality in splenectomy can be lowered by care exercised in four separate ways: in Diagnosis, in Pre-operative Preparation, in the Essentials of Operative Technique, and in the Post-operative Care of the patient.

The essential point to be remembered in regard to the Diagnosis is to have in mind the list of conditions for which splenectomy is of decided value, of possible value or merely of doubtful or no value. In some of these conditions the splenectomy not only is of no value, but may interpose a new condition which will aid the progress of the disease process, or would inhibit the ability of

the patient to recover from the disease process. In considering diseases of the spleen, the usual diagnostic features of the diseases must be kept in mind. The condition in which essentials of diagnosis can be so variable and confusing is that of rupture of the spleen. The conditions from which ruptured spleen must be differentiated are chiefly acute abdominal emergencies which require prompt surgical intervention. Perforated peptic ulcer, mesenteric thrombosis, ruptured kidney or liver and ruptured ectopic pregnancy, are some of the most important conditions to be considered. Of these, rupture of the left kidney is the most likely to cause confusion. The condition can be ruled out by getting a urinalysis and an intravenous pyelogram.

It has been shown that approximately 50% of patients with ruptured spleens die within one hour following the injury. It is also demonstrated that most of those cases are those which have such severe damage that immediate surgery would not have lowered the mortality rate an appreciable degree. We then must attempt to lower that other 50% by a more prompt diagnosis and adequate treatment. One should realize that an error in diagnosis or any attempt to minimize the seriousness of the situation may cost the life of the patient. To postpone operation after a presumptive diagnosis of splenic injury has been made is often disastrous.

In most instances when splenectomy is being contemplated, sufficient time is available for proper pre-operative preparation of the patient. However, in a case of a ruptured spleen we have one of the few instances where shock is not to be considered a contra-indication to surgery. Those patients who are in shock should be treated by such methods as intravenous fluids, plasma,

or by slow-drip blood transfusion during surgery. However, it is reasonable to assume that it is impossible to alleviate shock in a patient who is hemorrhaging from a large tear in the spleen. It is still a good axiom to remember that if operation is delayed until the patient recovers from shock, but few ruptured spleens will come to operation.

There is no consistent agreement that pre-operative transfusions are essential in the blood dyscrasias.

It has been said that there is no operation which has received so little technical attention as splenectomy. It is most essential that the anatomy be familiar ground to the operator and that he realize that normal anatomical structures form an effective barrier to delivery of the spleen into the wound. It is well to ligate the splenic artery at the earliest possible moment. In this operation, a deliberate plan, based on anatomic knowledge, is most necessary. Speed is of not too great an importance in the low risk splenectomy. The all-important thing is to preclude all possibility of hemorrhage (or further hemorrhage).

Post-operative care is based upon careful observation for signs and symptoms of certain complications that are apt to occur after any surgery and for certain complications that are especially prone to occur after splenectomy has been done. Many of these cases develop pulmonary and pleural complications. This is because of a splinting of the left diaphragm which occurs because of the hemorrhage and trauma of the surgery done. Such splinting causes stasis and local atelectasis in the base of the left lung, thus bringing about pneumonia and pleurisy. Coughing from this cause can result in wound disruption in a small percentage of cases. One must be able to recognize

signs of developing or advancing embolism and institute early anti-embolant therapy.

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Regional Enteritis

By

JOHN ROBERTS PHILLIPS, M.D.*

HOUSTON, TEXAS

THIS relatively new disease is being seen more commonly and the accuracy of diagnosis is well represented in the case to be reported, in that, in spite of the fact that the patient had multiple conditions the true nature of the situation was well understood and

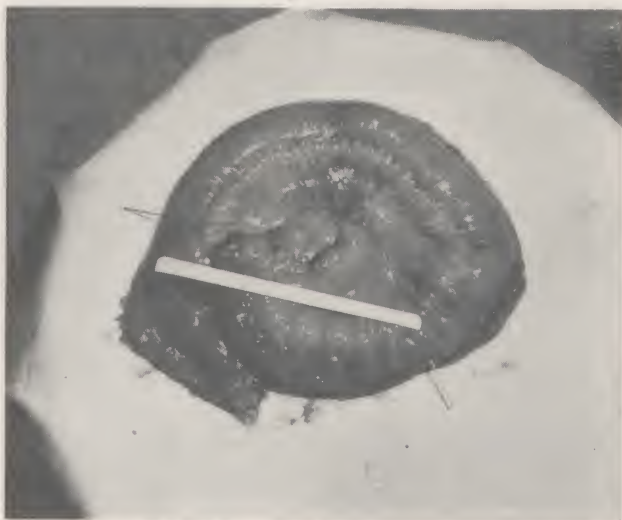


Fig. 1. The resected specimen of ileum with its accompanying mesentery and glands is shown.

the process localized definitely before exploration. This has been possible due to the fact that the condition was thought of and an x-ray of the small bowel carried out.

Case Report: The patient was a white male, age 62,

Submitted Dec. 14, 1944.

*Diplomate of American Board of Surgery

Caucasian, City Fireman. He first began having symptoms in 1942, which symptoms consisted of severe lower abdominal colicky pain associated with some distension and some nausea but no vomiting. There had been no change in the stool findings. There had never been any bleeding, and there had been no diarrhea. There had been a tendency to constipation. He had lost his appetite and during the period from November, 1942 until February 15th, 1943, at which time he was first seen by me, he had lost sixteen pounds in weight. Because of his obstructive symptoms it was thought



Fig. 2. The opened bowel shows a very thickened, rubbery wall with extensive ulceration.

that, at his age, he might have a new growth in his colon. Proctoscopic examination was entirely negative for 25 centimeters. An x-ray of his colon revealed multiple diverticula of the sigmoid colon, but without any evidence of obstruction or inflammation, although it had been presumed previously that the diverticula had caused trouble and certainly this was a definite

possibility. The question arose as to whether he might not have some adherence of the sigmoid to the bladder due to the fact that he had had some attacks of urinary tract infection, however, the pyelograms and cystogram were entirely negative. There was no evidence of any internal fistula. An x-ray of the small bowel revealed an obstructive lesion involving the lower ileum. The lower six inches of the ileum was normal. The pre-operative diagnosis therefore was made of regional enteritis, involving the ileum, the lower six inches of the ileum being entirely negative.

Exploration was carried out on February 15th, 1943, at which time the entire colon was explored and found to be negative except for multiple diverticula without evidence of inflammation. There were no adhesions. The omentum was free. The ileum was involved for a distance of about twenty four inches, the ileum being very markedly thickened and indurated. The accompanying mesentery glands were quite markedly swollen. The lower six inches of the ileum was not involved. The cecum was quite normal. Examination of the remaining portion of the small intestine revealed no other area of enteritis. About twenty-four inches of the ileum was removed, together with its mesentery glands. The terminal ileum was inverted and the proximal ileum was anastomosed to the transverse colon by an end to side ileocolostomy. The patient was given 500 CC's of citrated blood. His immediate and subsequent post-operative course was quite uneventful. Nasal suction was instituted for the first five days. After that he was allowed to take his fluids by mouth. Pathological examination revealed an ulcerative enteritis of the ileum, the bowel wall being quite thickened. There was no evidence of any tuberculosis. The patient was allowed to leave the hospital on the tenth post-operative day and progressively and rapidly improved. He was able to return to his duties as a city fireman within six weeks and within three months had gained twenty pounds in weight. His bowels were working normally and a check-up x-ray revealed that his ileo-colostomy

was functioning quite normally. His condition has continued to remain quite well.

COMMENT

We ordinarily look upon a condition of regional enteritis being a condition occurring in young individuals. It is more common in the male sex. The terminal ileum is involved in the majority of cases but any part of the intestinal tract can be involved. Cases of involvement of the terminal ileum and cecum are now being reported. Also multiple areas of involvement are not uncommon. It is common enough so that multiple areas should always be looked for. I feel that primary resection should be carried out whenever advisable.

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EXCISION OF THE DUODENUM AND HEAD OF THE PANCREAS FOR CARCINOMA OF THE AMPULLA

METHOD OF ANASTOMOSING PANCREATIC DUCT TO THE JEJUNUM

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RADICAL surgery for carcinoma of the ampulla or head of the pancreas has now taken its place in their management. In a recent communication from Whipple he states that the case that I am reporting brings the total number of cases that have appeared in the literature, or have been reported to him, to about sixty-five, who have had radical surgery for carcinoma of the ampulla or head of the pancreas.

This patient presented an unusual problem in that upon his admission, he had evidence of an acute cholecystitis with a perforation of the gallbladder. At operation it was found that he had a gangrenous gallbladder, which had ruptured and bile ran free in the peritoneal cavity. There was a small liver abscess about two inches from the gallbladder. Everything was so indurated that nothing further than a cholecystostomy and a drainage of the liver abscess was carried out. There were no stones in the gallbladder. After a rather stormy course, his general condition improved. He was in the hospital about three weeks, during which time all of the bile drained out his cholecystostomy wound. No bile, whatever, went through to his duodenum. There was a lot of infection in his abdominal wall, which slowly subsided and after two months he was in such condition that it was decided that exploration of his biliary tract could be carried out. He was explored with a provisional diagnosis of a common duct stone obstructing the ampulla of Vater.

At operation the common duct was markedly dilated. It was opened and upon passing a scoop down to the ampulla, a soft mass could be felt, which was about the size of the end of the little finger. It felt like a soft stone, but nothing could be milked back. Because of this, the duodenum was then opened over the

ampulla and a tumor mass could be seen. A section of this was taken and reported to be a Grade 2 adenocarcinoma. The tumor was destroyed by cautery and the duodenum closed. The common duct was then anastomosed to the stomach above the pylorus and the gallbladder removed, because it was so badly diseased that it could not be used in anastomosis. An anterior gastroenterostomy with an entero-anastomosis was made, the anterior operation being necessary because of adhesions and induration in the transverse mesocolon. The abdomen was drained. The patient, this time, made a very rapid and had a very easy convalescence. He was in the hospital about twelve days.

He, again, had a good deal of infection in his abdominal wall, so that the operation of radical excision had to be postponed again for six weeks. At the end of this time he was re-explored and the duodenum with the entire head of the pancreas was removed in one block. The pyloric end of the stomach was closed, as was the cut end of the duodenum near the ligament of Treitz. The pancreatic duct was ligated and the head of the pancreas was sutured with linen. A catheter was left into the raw bed and the space was further drained by a Penrose drain. He was given a blood transfusion on the operating table. The operation was unusually difficult because of the many adhesions and because of the persistence of a good deal of induration in the tissues. He stood the operation well. On the fourth post-operative day he developed a pancreatic fistula. For the first two days he drained 360 cc. Following that it decreased rather rapidly until at the end of the ninth day there was only 50 cc. drainage. This had completely stopped by the twelfth day, at which time he was allowed to go home from the hospital.

The functioning of the gastroenterostomy and the anastomosis of the common duct to

the stomach had been perfectly normal in every respect. There has been no jaundice and there has been no gastric retention. He is

and they have not been fatty. It has been the experience of Whipple that these patients are able to digest 80 to 85 per cent of a meas-



FIG. 1. Shows the method of handling the common duct in the case reported.

eating well and feels fine at this time. He was strong enough to report to the office for dressing

ured fat intake. In some cases, however, pancreatic extract and lipocac have to be administered. This is particularly true if there are fatty bulky stools.

The pathological examination of the specimen revealed an ulcerating carcinoma at the ampulla, a centimeter in diameter. There was infiltration of all the layers of the duodenal wall. There was no infiltration into the pancreas and there was no lymph gland involvement found. It was diagnosed adenocarcinoma, Grade 2. Due to the fact that this man is forty-four years of age and that he had a small lesion, it is hoped that he might be able to survive for a long time so that the effect can be studied throughout the course of several years.



FIG. 2. Shows the proposed method of handling the pancreatic duct.

on the seventeenth postoperative day. There has been no interference from the loss of the pancreatic secretion. The bowels are normal

Prior to Whipple's advocacy of radical surgery for lesions in this area, only palliative procedures had been carried out. I was unable to carry out the procedure as advocated by Whipple due to the condition of the gallbladder and I realize that the operation of anastomosing the gallbladder

to the jejunum is a more scientific procedure. Due to the serious biliary fistulas that often develop after ligation of the common duct, Whipple now anastomoses the common duct to the jejunum. This is even a better procedure.

PROPOSED METHOD OF HANDLING PANCREATIC DUCT

Up to the present time the pancreatic duct has been ligated and dropped back. Whipple has anastomosed it to the posterior wall of the stomach. In the future I believe that it will be worth considering, and I plan to utilize this method of using a rather long loop of jejunum to anastomose to the common duct as a first stage. In this way the loop, after extirpation of the duodenum and head of the pancreas, can be swung over against the neck of the pancreas and the neck of the pancreas literally inserted into the side of the jejunum. In this way the loss of pancreatic digestion will not be complete, and in order to afford better healing of the pancreas

to the side of the jejunum, I propose to insert a duodenal tube through the jejunum below the site of anastomosis, stitch the tube into the pancreatic duct and after returning the patient to the room, start suction, using the Wangenstein apparatus. This should keep the pancreatic and biliary secretions away from the area of anastomosis and allow healing to take place. In about a week or ten days this catgut suture should slough out and the tube then can be removed.

Carcinomas of the ampulla of Vater should be more favorable than carcinomas of the head of the pancreas for radical surgery for they metastasize more slowly. These lesions are often very small and unless at exploration the duodenum is opened and a biopsy taken, many operable lesions will probably be overlooked. I am sure that in my case I would have entirely missed the diagnosis, had I not opened the duodenum and taken a specimen for microscopic study. I urge that this be done in all doubtful cases.



RIGHT TRAUMATIC DIAPHRAGMATIC HERNIA

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HERNIATION of the abdominal viscera into the right hemithorax is unusual. This case represents very many interesting things:

phragmatic hernia on the right side since the time of his injury.

X-rays revealed a separation of the diaphragm from the anterior chest wall through



FIG. 1. Numerous loops of small intestine are seen in the right lower chest cavity. The outline of the diaphragm is not visualized.

The patient was a white male, age 35, who had had an automobile accident eleven years before. At that time he had suffered a fracture of his spine and had a laceration of his diaphragm, but he had recovered from this serious accident and had carried on fairly satisfactorily for a period of eleven years. Recently, however, there have been attacks of abdominal pain, crampy in nature, associated with nausea and vomiting which led one to believe that he probably had an intermittent intestinal obstruction. He had known that he had had a dia-

which protruded the ascending colon, stomach, cecum, appendix and loops of ileum. His general condition was quite normal. Operation was advised and because of the anterior location of the rent in the diaphragm, an anterior abdominal approach was decided upon. Under intratracheal anesthesia a high right rectus incision was made, and it was found that the right leaf of the diaphragm had been torn from the chest wall, starting at the xiphoid and extending well around to the mid-axillary line. The diaphragm just dropped posteriorly.



FIG. 2. Barium filled colon shows the entire right colon and most of the transverse colon with loops of small intestine extending into the right hemithorax.



FIG. 3. Shows the lung completely re-expanded on the thirty-sixth postoperative day. Outline of the diaphragm was well visualized.

Through this opening the transverse colon, ascending colon, ileum and stomach herniated into the chest cavity as high as the apex of the

tinum. This was separated and replaced. The diaphragm was then resutured to the anterior chest wall, using catgut and fascia lata stitches.



FIG. 4. The thirty-sixth postoperative day shows the barium filled colon and stomach well below the diaphragm.

chest. The lung was about two-thirds compressed. The round ligament and falciform ligament of the liver had been completely torn, so that the left lobe of the liver was lying in the right lower quadrant, the liver having rotated into this position. When the liver dropped down, of course, this enabled the other abdominal viscera to get through the opening readily in the diaphragm. The abdominal viscera could readily be replaced in the abdominal cavity with the exception of the duodenum, which was adhered along the medias-

The liver was replaced in its normal position and sutured up over the rent to act as a buffer. The falciform and round ligaments were reconstructed. The procedure worked out very well. The abdomen and chest were closed without drainage.

The patient stood the operation well and had, with the exception of an accumulation of some fluid under the skin flap, almost an uneventful convalescence. X-ray of his chest and abdominal viscera three weeks after operation revealed the viscera to be in normal relation in

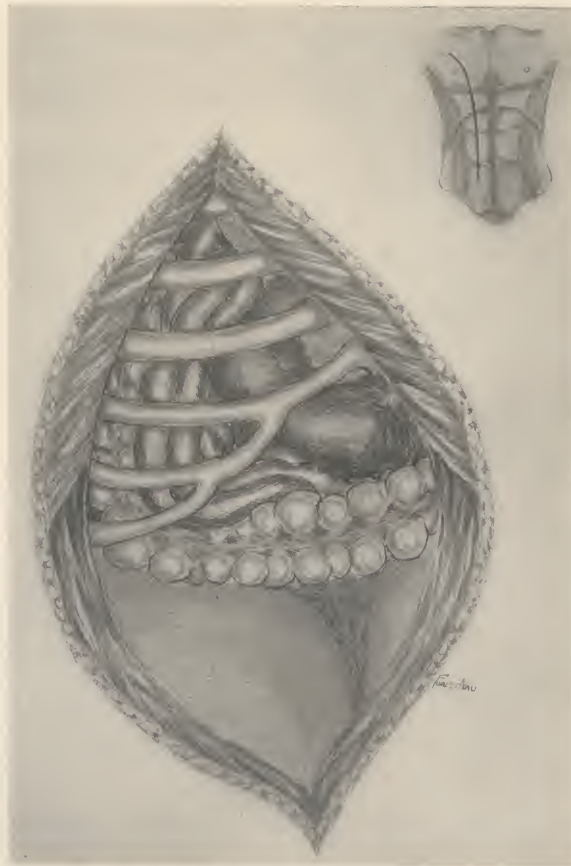


FIG. 5. The type of incision utilized and the position of the abdominal viscera in the right chest cavity.

the abdomen. He is eating well and his general condition is excellent.

This is the second traumatic diaphragmatic rupture that I have repaired within the year. The other occurred on the left side, and was a laceration of the dome, through which the spleen, transverse colon

and loops of small bowel were herniated into the left chest cavity. This laceration was repaired by transcostal approach, suturing the diaphragm from above.

Each case is an individual one and the type of incision for exposure will depend upon the location.



FIG. 6. The method of suture of the diaphragm to the chest wall by through-and-through suture is shown.



Funnel Chest

Report of Case Successfully Treated
by Chondro-sternal Resection

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Houston, Texas

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Funnel Chest: Report of Case Successfully Treated by Chondro-sternal Resection

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Funnel chest (chone-chondrosternon, pectus excavatum) usually is a congenital, but may be an acquired, condition. There is a depression of the lower portion of the sternum with the costal cartilages, which has a tendency to become worse as the individual grows older. Chone-chondrosternon is the name that has been given to the condition by Ochsner and DeBakey,¹ who have made a very extensive review of the literature and reported a case of their own. They very carefully reviewed the records of thirty-two patients who had been operated upon during the past twenty-seven years. Since then, Brown² reports on three radically operated cases and reports four cases developing pectus excavatum upon whom a palliative operation was performed. Haberlin³ has also successfully operated upon one case. The very fact that so few cases have been operated upon does not mean that the condition does not occur more frequently with symptoms severe enough to require operation.

Operation undoubtedly has been denied many patients who could have been benefited surgically. There are three methods of attacking such a condition. The three types of operative procedure are: (1) Chondro-sternal resection. Ten cases had been treated by this procedure with successful results in eight, and death occurred in two. (2) T-Sternotomy, with or without costal-cartilage division, was carried out in fourteen cases. Eight cases were successful, two failed, and death resulted in four. (3) Sternal mobilization with chondral division or resection. This undoubtedly is the operation of choice, because a better thoracic cage will result. Eight cases have been operated upon by this procedure with seven satisfactory results and one failure.

I wish to add a case in which chondro-sternal resection was carried out. Because of the marked deformity of the sternum with rotation, it was felt that resection of the sternum and cartilages was the operation of choice; and a very satisfactory end result was obtained.

Case Report—The patient is a white female, age 21, whose chief complaints were shortness of breath, increasing deformity of the chest and pain and discomfort in the chest. Some deformity had been present as long as she could remember. It had increased in the past two years. She had been working in a defense plant up until the present time. She found

it necessary to stop work because of increasing difficulty with shortness of breath and pain in her chest, and a feeling of pressure on the heart. The pulse rate had been increasing. She had a feeling of a constriction of the chest and she was quite conscious of her heart. These symptoms had become much worse within the last three or four months and in addition to her symptoms she had become quite sensitive about the deformity of the chest and a tendency to stooping of her shoulders. There was also some lack in development of the left breast, it being about half the size of the right breast. Her general physical examination otherwise was negative. There were no abnormal heart sounds. The x-ray of the chest revealed some displacement of the heart toward the right side. The costal arch, on the left, shingled over the sternum so that about one-half of the sternum was under the arch, and there was a marked depression of the sternum with the costal arch on the right side and to the lesser degree on the left side. The blood pressure was 120 over 70, the pulse was 100, and there was a rather marked tendency for the patient to bend forward from the shoulders. The patient had no history of injury, and her general physical condition had always been good. There was no history in the family of abnormality in development as far as she could determine. The urine analysis, blood counts and blood Wassermann tests were all within normal limits.

She was operated upon January 10, 1944. A resection of the xiphoid and body of the sternum, together with the 3rd, 4th, 5th and 6th chondral cartilages on each side was carried out through a curved incision over the sternum. The chondral cartilages on the left were abnormally attached to about the level of the 3rd chondral articulation. They all seemed to run up to this area in a knob formation. They were shingled over each other and the sternum was shingled under these cartilages on the left

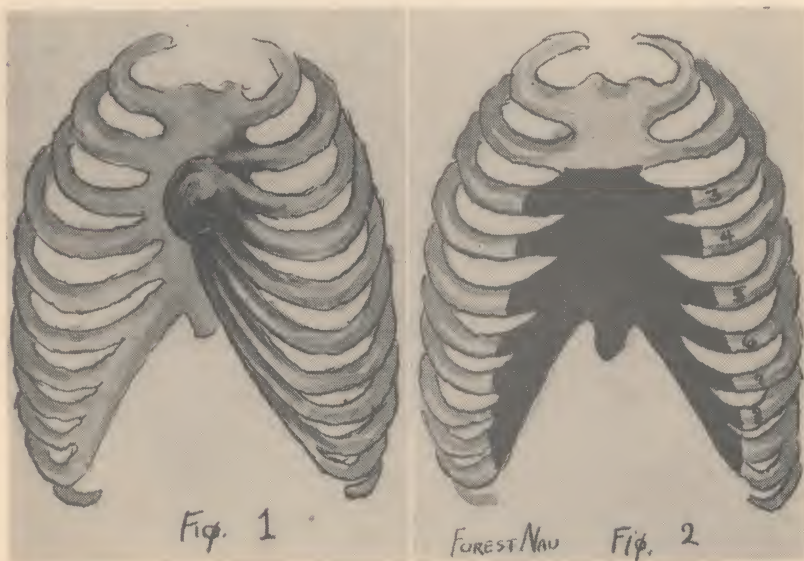


Fig. 1—Artist's drawing of shingling of the ribs over the sternum. Fig. 2—Showing the amount of chondrosternal resection that was carried out.

side. The chondral arch was completely resected with the cartilages and the pericardium peeled away from the posterior part of the sternum. The pleura and pericardium were dissected away without entering into either of these cavities. Due to the marked deformity over the body of the sternum I felt it advisable to resect the sternum rather than to fracture it and hold it in place with wire. The bleeding from the body of the sternum was controlled by bone wax. One penrose drain was left over the pericardium and brought out through the lower angle of the incision. Five grams of sulfanilamide was left in the wound. The patient was given 500 cc. of blood at the completion of the operation. The operation was done under intratracheal cyclopropane anesthesia. The whole procedure took about an hour and forty minutes and really worked out very well. The patient's immediate postoperative course was very good. She showed no evidence of any cardiac embarrassment, or abnormality. Her temperature never ran over 100°; on the fifth day she was allowed to sit on the side of the bed, and by the end of the week she was out of bed and walking around in the ward. She was allowed to leave the hospital in ten days and has progressively improved. The heart action has been perfectly normal, with rather active pulsation over the precordial area, but this in no way disturbs the patient. The deformity has been largely corrected. She does not have the feeling of pulling over of her chest, and two months after operation she was allowed to return to her usual duties in a defense plant. Her convalescence really was without incident.



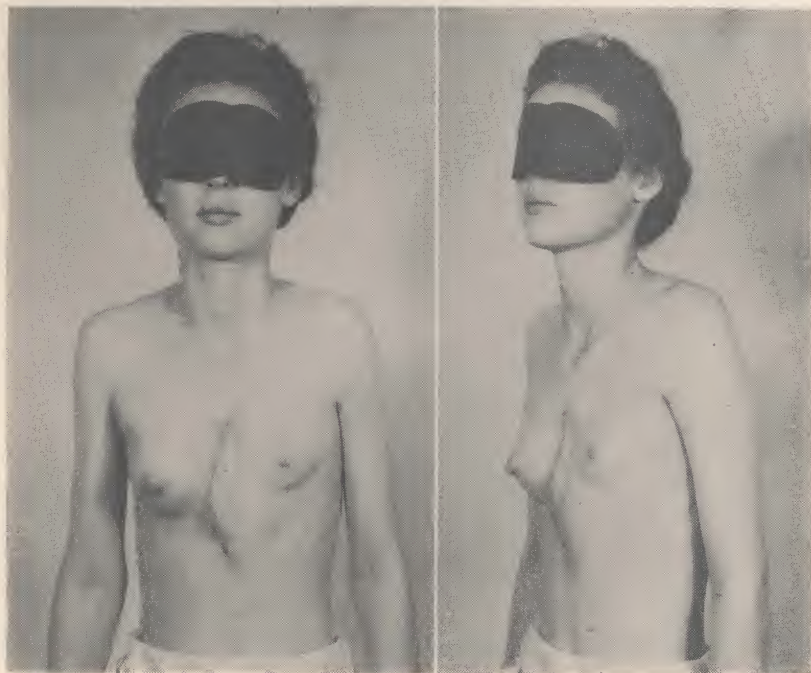
Front and side views preoperatively.

SUMMARY

Another case of successful resection of the sternum with the chondral cartilages on each side for depression of the sternum and costal cartilages has been reported. It is felt that the operation of choice in these cases would be sternal mobilization rather than resection, but in this case, due to the marked deformity of the costal arch, together with the rotation of the sternum, resection was necessary. It is true the entire literature does not contain enough case reports to actively determine which procedure will carry the highest incidence of cure. The mortality rate in resection of the sternum should be no higher than the mortality rate in sternal mobilization. This brings the number of cases that have been operated upon by a radical procedure reported in the literature to thirty-eight. In children a less radical procedure of dividing the diaphragmatic attachment to the sternum will usually stop the progress of the condition.

RESUMEN

Se informa sobre otro caso de resección del esternón y de los cartílagos de ambos lados, ejecutada con buen éxito para corregir la depresión del esternón y de los cartílagos costales. Se opina que



Front and side views two weeks postoperatively.

la operación de elección en estos casos sería la movilización del esternón más bien que la resección; pero en este caso, debido a la gran deformidad del arco costal y a la rotación del esternón, la resección fue necesaria. Es cierto que la entera literatura no contiene suficiente número de informes de casos para determinar adecuadamente cuál procedimiento obtendría el mayor número de curaciones. La mortalidad en la resección del esternón no debe ser más alta que la mortalidad en la movilización del esternón. Este eleva a treinta y ocho el número de casos sometidos a una operación radical, que se han presentado en la literatura. En los niños el procedimiento menos radical de dividir la unión del diafragma con el esternón por lo general interrumpe el progreso de este estado.

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THE TREATMENT OF DUODENAL ULCER

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THE TREATMENT OF DUODENAL ULCER

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The syndrome of duodenal ulcer usually is typical. In some cases the symptoms are severe, in others they are mild or absent. It is not uncommon to find a duodenal ulcer at necropsy when death has resulted from some other cause, and so far as can be determined, digestive disturbances had never been present. Due to the mildness of the manifestations and the tendency to long periods of remission of symptoms, many patients with duodenal ulcer do not present themselves for treatment until late in the course of the disease.

The severity of the symptoms will determine the type of treatment that should be undertaken. Some patients obtain satisfactory relief for a long period by adhering to a careful medical and dietary regimen, but eventually a large proportion of them submit to surgical treatment either because they are unwilling to continue the dietary regimen to control symptoms, or because some complicating feature has developed. Since this is true, it would seem that early operation is justified in more of these cases. Delay in obtaining adequate treatment affords an opportunity for the development of

complications which constitute an additional risk at the time operation is undertaken. But we do not know just what proportion of duodenal ulcers perforate into the free abdominal cavity or the percentage that causes obstruction or gastro-intestinal bleeding, and therefore operative treatment cannot be urged on this basis alone. If the risk of surgical treatment of duodenal ulcer were not low, one would not be justified in advising operation early in the course of the disease, for it must be remembered that in some instances the procedure will be undertaken for the relief of symptoms which are more annoying than disabling. However there are certain patients, such as farmers, laboring men, traveling men, and others, who will not be able to carry on their duties while they are on medical treatment. Surgery would offer complete and permanent relief to most of these patients and add greatly to their physical and economic well-being.

Medical treatment is offered to young men and women with duodenal ulcer who are experiencing their first attacks of digestive disturbance, and to those who have the time and money to invest in a

regimen which may lead to nothing more than temporary relief. Cessation of the annoying manifestations may be obtained rather easily by medical treatment in some cases, but such experience is no assurance that the symptoms will not recur. From the onset it must be realized that this is a disease which runs a chronic course. Undoubtedly in some cases the ulcer heals spontaneously. More often, it heals slowly and poorly and even after healing it will tend to become active at intervals.

Our observations indicate that in certain types of cases the ulcer is prone to recur. Usually the patients are of nervous temperament. They find it difficult to adapt themselves to a medical and dietary regimen, and for the same reason surgical treatment may be disappointing. One should be slow to advise surgical treatment if the patient is high-strung, maintains poor living habits, or if there is a functional factor present. In such cases operation is not always satisfactory. Even extensive resection does not insure against recurrent ulceration, and if this should take place surgical approach is much more difficult at the second operation than it would have been had a local excision been made or gastro-enterostomy been performed. If the patient is obese, excision of the ulcer may be only a remote possibility. Furthermore, gastro-enterostomy may not function well, and it should not be undertaken unless some complicating factor makes surgical treatment imperative.

If such patients are hospitalized, they can be maintained on a careful regimen and under close observation, which enables a more accurate estimate of the type of treatment that will be best in the individual case. By facing the facts

promptly, it is often possible to save the patient with duodenal ulcer much time and expense.

The need for operation is determined by the presence of obstruction, evidence of perforation or hemorrhage.

Obstruction in the upper part of the gastro-intestinal tract may give rise to severe toxemia that may progress to gastric tetany, toxic nephritis, and finally cause death, if relief is not obtained. Patients with obstructive phenomena due to duodenal ulcer should have surgical treatment. Medical treatment and a supportive regimen should be carried out until they are in condition for surgical intervention. Preoperative preparatory treatment should always be given, particularly if the obstruction is marked or if the chemistry of the blood has been altered. This consists of repeated aspiration of the gastric content and the administration of fluids intravenously. If the patient is young, excision of the ulcer is preferable, in the event this can be carried out, otherwise the operation of choice for patients having obstruction due to duodenal ulcer, is gastro-enterostomy.

It has been reported that the acute ulcer perforates and that chronic lesions frequently perforate. Moynihan found that 117 deaths from perforated duodenal ulcer had occurred between 1910 and 1925 in the Leeds Infirmary. The perforating lesion was in an acute state of inflammation in eight cases only. Balfour stated that he had never observed perforation of an ulcer following gastro-enterostomy. Apparently timely surgical treatment is the best insurance against this serious complication. Uncontrollable pain, particularly that radiating to the back, is suggestive of impending or ac-

tual perforation of the lesion. If the patient is under a carefully regulated medical and dietary regimen, there is ample justification for prompt surgical intervention.

A bleeding duodenal ulcer always presents a serious problem. Although we are led to believe that death from hemorrhage is relatively rare, necropsy reports will undoubtedly reveal that a certain number of patients have lost their lives from this cause.

Hemorrhages due to duodenal ulcer vary widely in severity, frequency, and duration. Probably only a small proportion of duodenal ulcers cause bleeding, although peptic ulcer is the most common cause of hemorrhage from the upper part of the gastro-intestinal tract. Sometimes the bleeding occurs before there has been any warning suggestive of the presence of a pathologic process in the duodenum; in other instances symptoms will be absent after the hemorrhage. A frank hemorrhage may prove fatal, or several attacks of slight bleeding may not cause severe disturbance. Apparently in some cases, slow seepage persists for a considerable period.

During the first hemorrhage treatment should practically always be expectant, first because the results of bleeding are rarely fatal, second, because the operative mortality is likely to be higher than if the condition is left undisturbed, and third, because an emergency operation does not permit an accurate differential diagnosis to be made. Even if surgical intervention is undertaken during the stage of active bleeding, it is often difficult to find the point of origin of the bleeding. Whenever possible, medical treatment should be carried out for two or three weeks be-

fore any operation is undertaken. This plan will give the acute inflammatory process a chance to subside to some extent, which affords the surgeon a better opportunity to attack the ulcer directly. In some instances, transfusions of blood will be advantageous in addition to the other measures. If postoperative bleeding occurs, it usually follows indirect surgical procedures, therefore, the lesion should be removed whenever it is at all feasible. This offers the best protection against later hemorrhage.

Not infrequently multiple lesions are present. This has become more apparent since the introduction of the practice of removing the cap of the duodenum and part of the pyloric sphincter. Besides the ulcer in the usual situation on the anterior wall, there is often another lesion on the posterior wall. If it is not possible to include the ulcer of the posterior wall in the excision, it may be destroyed with the cautery or it may be sutured over. In a few cases it will not be advisable or necessary to institute any treatment for the ulcer on the posterior wall.

The symptoms of duodenal ulcer may be masked or they may be so mild that its presence is not suspected. If an ulcer is discovered during the course of operation for some other abdominal complaint, it is sometimes advisable to institute the necessary surgical procedure for the duodenal lesion before the operation is completed. If an associated chronic gastric ulcer is found, it should be removed because of the tendency to undergo malignant changes. There is some evidence to show that disease in the gallbladder or appendix may be an etiologic factor in the formation of ulcer, and perhaps this amply explains the rather frequent coincidence of these lesions. Under these cir-

circumstances, little if any benefit should be expected from a dietary regimen.

If the duodenal lesion is reactivated after gastro-enterostomy, or if the ulcer recurs after excision, the symptoms are usually identical with those of the primary lesion. If the symptoms are mild, medical treatment may be all that is necessary, but often surgical measures are required. Reactivation of the duodenal ulcer may be due to a poorly functioning gastro-enteric stoma, improper habits of living, alcohol or tobacco in excess, unremoved foci of infection, and so forth.

In event jejunal ulcer occurs following gastro-enterostomy, it is best to restore, as nearly as possible, normal gastro-intestinal continuity, by taking down the gastro-enterostomy, closing the openings in the stomach and jejunum, excising the original duodenal ulcer with the anterior two-thirds of the pyloric sphincter, and then completing the operation as a gastroduodenostomy. Should the duodenum be immobile, the risk of removing the cap of the duodenum and the primary lesion may be excessive and it is better

to leave the ulcer undisturbed after taking down the gastro-enterostomy. If the duodenal ulcer becomes active after this procedure, resection of the stomach may be indicated.

In many instances satisfactory relief is obtained by gastro-enterostomy. Elderly patients, whose ulcer has caused obstruction have obtained excellent results. However, if it is possible to excise the cap of the duodenum with the ulcer and the anterior portion of the pyloric sphincter muscle, this procedure offers some additional advantage since it relieves the patient of the lesion and eliminates the possibility of the formation of a jejunal ulcer. It is certainly the preferred operation for young patients. The procedure is applicable in about 50 per cent of all cases; in the others it will not be advisable because the duodenum is immobile or inaccessible. In almost all cases there will be a distinct advantage in having the patient adhere to a carefully regulated medical and dietary regimen for several weeks following surgical treatment.

When Should a Tumor Be Considered Inoperable

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When Should a Tumor Be Considered Inoperable

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In dealing with malignancy, the problem of inoperability is always coming up, both before operation and at the time of exploration. There are those surgeons who will make every effort to remove a malignant lesion, even though the condition, by some, may be considered as beyond removability. Oftentimes it is largely a question of one's experience and ability. In dealing with intra-abdominal malignancy, one should be certain, as far as possible, that there are no evidences of irremovable distant metastasis, which precludes curability. Metastasis in the neck, in the chest, around the umbilicus and on the rectal shelf should always be excluded. If these areas of distant metastasis can be excluded, then, for the most part, all intra-abdominal malignancies should be explored, for oftentimes x-ray is not conclusive in the extent to which the process might have developed. Sometimes there is an associated inflammation, which might lead one to believe, from an x-ray standpoint, that the lesion is inoperable, and yet at exploration it may be found to be rather easily and completely removed.

In the case of carcinoma of the stomach in high-lying lesions, total gastrectomy is now being carried out frequently with a high degree of success from a mortality standpoint. Occasionally, in lesions of the stomach, purely palliative procedures may be indicated. For example, if the patient has an ulcerating lesion of the pyloric end of the stomach with obstruction and has a metastatic nodule in the liver, which is questionable, or even certain, this patient may be afforded a period of relief from his obstruction if the lesion is excluded, or if the lesion—if removable—is removed. Removal of a lesion precludes further obstruction, bleeding or perforation, and the last short time of the patient's life might be lived in relative comfort.

In lesions of the colon in which the degree of malignancy is usually low, we are justified in carrying out extensive procedures, even though they seem to be only palliative in nature.

In carcinoma of the sigmoid in which the abdominal wall is involved by perforation, the local area can be excised, or even if the bladder should be involved, a portion of the bladder can be removed and the patient can be afforded considerable palliation oftentimes and sometimes, surprisingly enough, they are given an apparent cure. This is well borne out by an illustrated case.

CASE 1.

Patient was a white male, age 33. He presented himself for examination on August 18th, 1940, stating that he had noticed a lump in the left side of the abdomen for three months. He had been constipated, but had passed no blood or mucus. Constipation had become progressively worse, and he had lost twelve pounds in weight. His general condition, otherwise, was good. At exploration a perforated carcinoma of the sigmoid was found. The liver and mesenteric glands were negative. The carcinoma had perforated onto the abdominal wall, so it was necessary to remove a portion of the abdominal wall with the growth. Ten inches of the sigmoid was removed over a Rankin Clamp, using the obstructive type of resection and a catheter stitched into the proximal loop for passage of gas. The patient had an uneventful convalescence. The pathological specimen revealed it to be an adeno-carcinoma, grade 4. The size of the lesion was $3\frac{1}{2} \times 3\frac{1}{2} \times 3$ centimeters. There were no demonstrable glands involved. On October 8th, 1940 his colostomy was closed. He made an uneventful convalescence from this procedure and since that time has enjoyed perfectly normal health. He has been back to his usual work, and there has been no evidence of recurrence. A period of over two years has elapsed after what seemed to be a hopeless malignancy involving the sigmoid was removed. Certainly the procedure has been well justified in his case, as he still is quite normal.

Also in cases of malignancy of the colon, if there should be a solitary metastatic lesion in the liver, a palliative resection can be carried out and the patient will be spared the suffering and discomfort of obstruction, together with the severe pain which comes late from involvement of pelvic nerves.

The size of a tumor should never defer one from abdominal exploration. This, oftentimes, I feel does scare off some surgeons, and patients are not afforded a chance of relief purely on this basis. Large tumors of the malignant type often are slow-growing, and that is the reason the patient has been able to survive for such a length of time, and it is not at all uncommon that in the removal of large lesions, the patient will be afforded a period of palliation at least, and oftentimes cure. This is well borne out by the fact of an illustrated case.

CASE 2.

This patient was a white male, age 43. He presented himself for examination on April 28th, 1942. He had a large lower abdominal tumor which felt cystic. It was not entirely fixed. It filled the entire lower abdomen. He had been explored in November, 1941 elsewhere and biopsy of the tumor made, which proved it to be sarcoma. The lesion, at that time, was considered inoperable. He was given large doses of x-ray treatment, but the tumor continued to progress in size. Due to the fact that his general condition was good I felt that he should be re-explored, which was done on May 4th, 1942. Exploration revealed a large, degenerating sarcoma arising from the retroperitoneal tissues. There was a loop of small intestine adhered into the malignant process so that this loop of small intestine had to be resected. The tumor was removed. There was a questionable nodule in the depth of the liver. It could not be visualized, consequently, it was not certain as to whether it was a malignant invasion or not. The removed specimen proved it to be a spindle cell sarcoma of a moderate degree of malignancy. The patient had a rather stormy convalescence for the first week, due to the fact that a rather extensive procedure had to be carried out. After that his convalescence was quite normal. When he returned to the office for examination five months later he had gained twenty-two pounds in weight, looked perfectly normal and his abdominal examination was entirely negative. He was feeling fine, and although the outlook is uncertain, we feel that this rather extensive procedure was justified in light of the definite improvement in his condition.

One has to have a good deal of self-confidence and weigh the facts very thoroughly before re-exploring a patient who has been explored by another surgeon. Yet, not uncommonly, upon re-exploration tumors which had been pronounced inoperable are found to be removable. Before this is done a very thorough talk and discussion of the case, if possible, should be carried out with the surgeon who had done the exploration previously. It takes a good deal of courage to go ahead and advise exploration on one who has been explored previously—particularly if one or two doctors have shaken their head and wondered if such a thing is justifiable. I have, on occasion, done this with some reluctance, but have occasionally been able to remove a tumor which has been previously labeled as "Inoperable."

Sometimes one is puzzled as to whether to

explore an abdominal tumor, particularly when there has been evidence of carcinoma elsewhere, as in the breast—particularly if there is still evidence of malignancy lingering in that area. One always wonders what to expect in the future of such a case. The following case very clearly illustrates the importance of not giving up hope in cases of multiple malignancy, for oftentimes these patients can be carried for a considerable length of time, as shown by this patient, who has lived now for more than eight years, following radical amputation of the breast, and for the last six years we felt that fatality could be expected at any time.

CASE 3.

This patient presented herself to me first on July 24th, 1934. At that time she was 39 years of age. She had a lump in the right breast, which had been present for two years. The nature of the lump was not conclusive, but upon its removal it proved to be an adeno-carcinoma, grade 4, and the glands in the axilla and the supraclavicular glands proved to be involved. A radical amputation was done, removing the pectoralis minor and the greater portion of the pectoralis major muscles, with a complete glandular dissection. The patient had an uneventful convalescence, but within a year, came back with evidence of skin metastasis. These were treated by x-ray radiation and also later by radium. An April 26th, 1937 she presented herself with a tumor in the left breast, and upon removal it proved to be grade 4 adeno-carcinoma with glandular involvement. A radical amputation of this breast was done, removing the pectoralis minor and the greater portion of the pectoralis major muscles, doing a complete glandular dissection of the axilla. The patient made an uneventful convalescence and since that time almost at no time has the skin on the chest wall been entirely free of metastatic implants; however, these have been fairly well controlled by radium treatment. Her general condition has remained good and she has been able to take care of her usual household duties. At no time has there been any evidence of metastasis to the lungs. In April of 1942—approximately eight years after the first primary carcinoma of the breast was removed—she presented herself with ascites and bi-lateral ovarian tumors. She was quite anemic and her general condition was only fair. The question immediately came up as to whether these were primary tumors or whether they were secondary from the breast malignancy. Due to the fact that this lady had lived so long from radical

operation of the breasts, I felt justified in exploring her abdomen, which was done on April 14th, 1942. There was no evidence of any malignancy in the stomach. The liver was normal. Both ovaries presented themselves, with solid carcinoma. There was a considerable amount of free fluid in the abdominal cavity. A bi-lateral salpingo-oophorectomy and a subtotal hysterectomy was done. The patient was able to leave the hospital within a week. Following that she has had x-ray radiation over the pelvic organs and at this time shows very definite evidence of metastasis to bones. However, there is no evidence of metastasis to the lungs. We feel certain that this represents a case of true Krukenberg tumor from carcinoma of the breast, in light of the fact that examination of the stomach, gall-bladder and small bowel was negative at the time of the removal of the ovarian tumors and due to the fact that there is definite evidence now of metastasis in the bones. This represents a most remarkable case and for the patient to have survived eight years and had two subsequent malignant processes, she, at this time, is still quite ambulatory and active in her duties even though she has bone metastasis.

I realize that I am talking about some pretty delicate things and that I certainly don't want to have anybody gain the impression that I would advise removal of inoperable lesions, but certainly one is encouraged to be as understanding as possible for we are rewarded oftentimes by these encouraging cases, which does

encourage us to tackle some of these problems in which otherwise the patient's doom would be sealed.

I feel that all cases of intra-abdominal carcinoma in which evidence of incurability cannot be proven by examination, should be explored providing the general condition of the patient is such that an exploration with the necessary removal can be expected. Palliative resection has a very definite place in the relief of a patient from the suffering which is attended from malignancy, if it is at all possible, and if one can assume that the period of relief will justify the procedure. Six months or a year, I think, is a fair time to suppose that a patient might get relief by palliative procedure. I do not believe that the presence of irremovable metastatic glands, provided the local growth is removable, is contra-indication to resection, for the glands may even recede after resection of the primary growth. Oftentimes they are inflammatory and we occasionally see cases in which apparently the metastatic glands completely disappear. There are two theories for this. One is that the secondary growths are dependent upon the primary growths for their existence, and the other is that following removal of a primary growth the general condition of the patient frequently improves sufficiently so that the secondary growths are either killed off or retarded in their progress. Solitary metastasis in the liver, particularly if the lesion is primary in the colon, should not preclude removal of the primary lesion.

PAPILLOMA OF THE GALL BLADDER*

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BENIGN tumors of the gall bladder were considered rare until MacCarty described cholecystitis catarrhalis papillomatosa in 1910; he was the first in this country to describe the condition. About the time of his report, cholecystectomy began to be recognized more and more as the best procedure in treating many cases of disease of the gall bladder. With this change in surgical procedure, more thorough examination of the interior of the gall bladder could be carried out, and papillomas began to be seen more frequently by the surgical pathologist. This increasing incidence of recognition of the condition is evident in the papers of Irwin and MacCarty, C. H. Mayo, Keene, Mölle, Abell, and MacCarty.

My study was of a group of 500 gall bladders, surgically removed at The Mayo Clinic between 1923 and 1929 which proved to contain one papilloma or more. These gall bladders were taken consecutively as they appeared in the course of all operations on the gall bladder. Special attention was given to the relationship of papilloma to malignancy, and to other diseases of the gall bladder. The corresponding clinical histories were reviewed.

The incidence by age of patients was found to be as follows: ten to twenty years, 0.4 per cent; twenty to thirty years, 6.2 per cent; thirty to forty years, 29 per cent; forty to fifty years, 30.8 per cent; fifty to sixty years, 27.6 per cent, and sixty to seventy years, 6 per cent. Of the patients from whom the gall bladders were derived, 68.4 per cent were females.

From these figures the high incidence of papillomas among patients of the comparatively early age group of thirty to

forty years will be noted. Papillomas rarely occur before the third decade of life. Records of post-mortem examinations made at the clinic from 1922 to 1930 in cases in which death was from other causes than disease of the gall bladder disclose that only 3 cases of papilloma of the gall bladder were found among patients who were less than thirty years of age. These three patients were, respectively, twenty-two, twenty-four and twenty-six years of age. Mentzer, in his study of 633 consecutive postmortem examinations, found only one patient less than thirty years of age who had papillomatous cholecystitis.

All the sections studied microscopically gave evidence of inflammation, either in an acute, subacute, or chronic form, but by far the greatest number were examples of so-called chronic catarrhal cholecystitis, as is shown by infiltration of the submucosa by small round cells.

Etiologically I think two factors present themselves in the formation of papillomas: in one group infection plays the important part; in a second group, infection and metabolic disturbances work together. By far the larger number of cases will fall in the latter group.

In the cases of true inflammation, the gross appearance is that of papillary projections from the mucous membrane of the gall bladder; the color of the papilloma resembles that of the mucous membrane. The pedicle is of about the same size as the growth (Fig. 1). The growth, therefore, does not break off easily, but, as will appear, papillomas of the type next to be described do break off. Microscopically, the papillomas appear as projections with many branches, with very little stroma,

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and give evidence of containing but little fat on staining. Many small round cells may be seen in the pedicle, often as local-

wall by a small pedicle (Fig. 3). The gall bladders are usually not badly infected, and not markedly thick walled. Microscopically

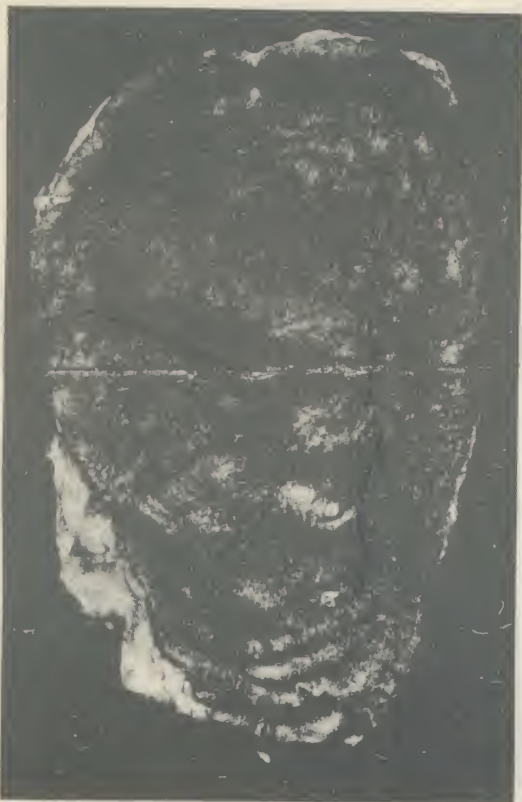


FIG. 1. Sessile papilloma, which is of same color as mucous membrane of gall bladder. Gall bladder was badly diseased.

ized collections, and in the underlying mucous membrane (Fig. 2). This type usually occurs in the thick-walled, badly infected gall bladder, the mucous membrane of which has not been destroyed. Because of the character of the projections, it would appear that if any papillomas became malignant, this type which is caused by infection alone would be the group from which the malignancy would develop.

In cases with both metabolic and inflammatory factors present, there are localized collections of cholesterol in villi, to such an extent that a papilloma is formed. The papillomas are yellowish, bulbous, easily detached, and often connected with the

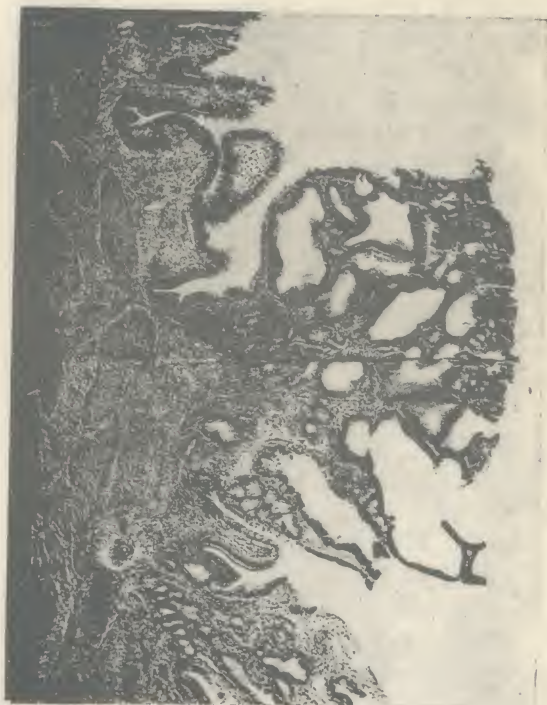


FIG. 2. Papilloma with rather broad pedicle and many branching projections. There is a collection of small round cells in pedicle.

the projections are heavily laden with large, foam-like cells which represent vacuolated fat, and when specially stained, are found to contain a large amount of fat (Fig. 4). Scattered throughout the substance of these projections are a few small round cells, and at times they form into definite collections depending on the amount of infection present.

This type is associated with the strawberry gall bladder described by MacCarty, since the projections have the same gross and microscopic appearance. The difference between a papillomatous and a strawberry gall bladder is a matter of degree; in the former, the cholesterol is collected into villi to such an extent that papillomas are formed. MacCarty stated that the appearance of the strawberry gall bladder is due to a lipoid substance within the swollen

connective tissue cells which lie just beneath the epithelium. When the villi become large and branched, they form

order of frequency. Most of the cultures from chronically diseased gall bladders are sterile. Cultures from the strawberry gall



FIG. 3. Multiple papillomas attached by small pedicle, extremely friable.

papillomas. Histologically, such papillomas are identical with the villi of the strawberry gall bladder; the papillomas are merely larger and branched. If one were given a single villus of a strawberry gall bladder under a microscope, one could not state whether it was a villus of a strawberry gall bladder or a small papilloma. In some of the cases the cholesterol will be localized in one or more well-formed papillomas, without any other deposit of cholesterol appearing in the organ.

Nickel and Judd, in a bacteriologic and experimental study of 300 surgically resected gall bladders, concluded that most of the acute and subacute types contain pathogenic bacteria. The organisms are green-producing streptococci, gram-negative bacilli, and the staphylococcus in this



FIG. 4. Papilloma heavily laden with large vacuolated cells.

bladder also are usually sterile unless some complicating factor is present.

Often only one papilloma will be present, but larger numbers are not uncommon. In the series I studied, they were solitary in 41 per cent of cases, and multiple in 59 per cent (Fig. 3).

I found chronic catarrhal cholecystitis associated with papillomas in 255 cases (51 per cent), with strawberry gall bladder in 111 cases (22.2 per cent), and with stones in 76 cases (15.2 per cent). In 58 cases (11.6 per cent) chronic catarrhal cholecystitis was associated with strawberry gall bladder and with stones. There was, then, a total of 33.8 per cent of instances in which chronic catarrhal cholecystitis was associated with strawberry gall bladder, and in which the deposits of cholesterol were sufficient to recognize as yellowish projections; yet for all intents

and purposes the collections were localized in one or more papillomatous formations. In a high percentage of cases of chronic catarrhal cholecystitis and chronic cholecystitis with stones there is a type of papilloma like that usually seen in the strawberry type of gall bladder, but the collections are all localized to form papillomas. Of my entire group, 26.8 per cent were associated with stones.

Most of the papillomas are small. They usually vary in diameter from 1 to 5 mm. The largest papilloma noted in this series was 1.5 cm. in diameter.

Papillomas may occur in any part of the gall bladder, but they appear most frequently in the middle and cervical portions. Adenoma, a much rarer type of growth, usually occurs in the fundus. Only 9 cases of adenoma were found in my series of cases of papilloma, and all of the adenomas were in the fundus.

Duodenal ulcer was present in association with 20 of the papillomatous gall bladders (4 per cent). This figure is a little lower than that given by Eusterman, Mentzer and others for association of cholecystitis and duodenal lesions.

In reviewing the histories of the patients it was found that the usual symptoms were those either of cholecystitis, or of cholecystitis with stones.

The most important consideration is: Do papillomas of the gall bladder become malignant? This has been regarded as problematic by certain authors, although malignant degeneration has been reported by Ringel, Pels-Leusden, Siegert, and Hruška. In this series, no papilloma was found in which there was certain evidence of malignant change. In one papillomatous gall bladder there was also a carcinoma. The carcinoma may have started in a papilloma, but there was no way of proving that it had. In order conclusively to prove malignant change in a papilloma one portion of the papilloma would have to possess benign characteristics, whereas another part would have to possess malignant characteristics. In the case just

mentioned the growth that was malignant was entirely malignant, whereas the associated papillomas, in other parts of the organ, gave no evidence of malignant change.

According to Judd and Baumgartner, in the experience of The Mayo Clinic the frequency of malignancy of the gall bladder has diminished from an average of about 5 per cent in earlier years to 0.5 per cent in later years. In 1910 there were 4 carcinomas in 165 cases in which cholecystectomy was done. In 1928 there were 5 carcinomas in 1094 cases. The lower frequency in the later years is evidently due to the gall bladder being removed earlier in the disease, before malignant change takes place. Stones are almost constantly associated with carcinoma of the gall bladder; to be exact, in 94 per cent of cases of carcinoma of the organ.

Since only one carcinoma was found in the 500 gall bladders which formed the basis of this study, the incidence of carcinoma in papillomatous gall bladders would seem to be a little lower than in diseased gall bladders as a whole. This may be more apparent than real; however, carcinoma does occur almost entirely in badly diseased gall bladders which contain stones, whereas papillomatous gall bladders represent a process resulting from less infection and with less injury to the mucosa. That the mucosa of papillomatous gall bladders is not injured is brought out by the work of Caylor and Bollman who found, in a study of the bilirubin content of bile from the gall bladder in cholecytic disease, that gall bladders which contained papillomas and the associated hypertrophic rugae concentrated bile more than any others in their series of 105 cases, which included all kinds of disease of the gall bladder. Papillomatous gall bladders appear to possess the greatest amount of absorbing surface because of the epithelial covering of the papilloma and the hypertrophic rugae. Caylor and Bollman concluded that the concentrating activity is absent in acute inflammatory disease of

the gall bladder, empyema, hydrops, and contracted gall bladders, whereas in cases of cholecystitis with associated papillomas and hypertrophic rugae, the concentration of bile is definitely increased. Between these two extremes wide variation in the content of bilirubin is found.

Kirklin also noted roentgenologically that the shadows of papillomatous gall bladders were of excellent density, and frequently were better than the average. This is in accord with the work of Caylor and Bollman. Kirklin was the first to diagnose papillomas roentgenologically, and this is usually the only method of diagnosing them before the organ is submitted for pathologic examination. Very rarely, papillomas may be seen shining through a thin-walled gall bladder when the abdomen is opened.

As infection progresses in a gall bladder, the walls become more and more thickened, the mucous membrane becomes ulcerated or destroyed, gallstones are formed, and it is reasonable to believe that the papillomas are destroyed along with the mucous membrane. Therefore, on opening thick-walled, badly diseased gall bladders, one does not expect to see papillomas as often as in gall bladders which give evidence of only moderate disease. In this series, 15.6 per cent of the gall bladders were the site of cholecystitis graded 1. Many cases of cholecystitis graded 1 will be missed surgically and consequently papillomas will be missed also. However, Judd and Wilkie both have expressed the belief that if a good history of disease of the gall bladder is given, and colic has occurred, even if the gall bladder does appear fairly normal at operation, it should be removed, because the percentage of cures will be high.

Papillomas also probably play a part in formation of stones, for each papilloma is a polypoid projection of mucous membrane and stroma, and is heavily laden with cholesterol esters. I have frequently seen them broken off and lying loose in the gall bladder and have also seen them break

off on the slightest touch. Boyd, Stewart, and Mentzer expressed the belief that papillomas form nuclei for formation of stones, since they are polypi laden with cholesterol, and furnish ideal nuclei for precipitation of constituents of bile. Gosset, Bertrand, and Loewy also expressed the belief that they may break off and form nuclei for formation of stones, or that the cholesterol esters may be extruded following ulceration of the papillomas or the adjoining mucous membrane of a strawberry gall bladder, and in that way form nuclei. They found particles of small stones free in the bile in twenty of their 38 cases.

Although papillomas are fairly common now, I am sure that they may be frequently overlooked by the pathologist because of their small size, their friability, and their color; a small layer of bile may completely obscure them.

CONCLUSIONS

1. Pathologically, papillomas are of interest because of the place they occupy in relation to disease of the gall bladder.

2. From a clinical standpoint, treatment will have to depend on symptoms, for papillomas usually will not be recognized until the gall bladder is opened in the laboratory.

3. Malignancy was seen in only one of my group of 500 papillomatous gall bladders, and even in that instance, not etiologically associated with papilloma. It would not appear that malignancy would occur any more frequently in papillomas than in adjoining villi, since papillomas are only hyperplastic villi laden with cholesterol.

4. Papillomas occur, for the most part, in early disease of the gall bladder.

5. Papillomas may play a part in formation of gallstones, since when broken off from the mucous membrane they form a good nucleus for precipitation of constituents of bile.

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THROMBOCYTOPENIC PURPURA

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St. Joseph's and Memorial Hospitals

HOUSTON, TEXAS

THROMBOCYTOPENIC purpura is characterized by a diminution of the blood platelets. The first case was reported in 1735 by Werlhof. Brohm, in 1881, and Denys, in 1887, were the first to describe and emphasize that the essential finding was the lowered platelets in the peripheral blood. Hayem noted the normal clotting time and the absence of clot retraction. Duke, in 1910, showed the prolonged bleeding time. The first splenectomy for the condition was performed by Kaznelson in 1916.

Purpura hemorrhagica can be classified in many ways, but since we are only discussing thrombocytopenic purpura, we are limited to the symptomatic and the idiopathic type. Symptomatic purpura is that in which we find the purpura as an incidental finding or secondary finding along with the primary disease. This study was made on twenty-three cases, seven of these cases were of the symptomatic type and sixteen were of the idiopathic type. Eleven patients of the idiopathic type were splenectomized.

The various causes of the symptomatic type are: (1) blood dyscrasias, as leukemia, pernicious anemia, splastic anemia. In the series of cases studied there were three good examples of the type:

One was a four-year old white male admitted to the Hospital in 1941 with the symptoms of hemorrhages from the mouth and purpura. The blood findings were: platelets 11,500, white blood count 3,100 with 77 per cent lymphocytes, absent clot retraction, bleeding time five minutes. Splenectomy was performed; there was momentary rise in the platelet count, but the child did not improve. One month later the bleeding time was forty-nine minutes, the platelets 9,300, lymphocytes 88 per cent. One week later the white blood

count rose to 39,000 with 95 per cent lymphocytes and the diagnosis of leukemia was made. This was confirmed at autopsy.

Another case, a seventeen-year old male was sent into the hospital as a case of purpura, but the diagnosis of leukemia was proved before splenectomy was contemplated. Still another was a twenty-year old white female admitted to the Hospital in 1938 with purpura and bleeding from the gums of three to four months' duration. Examination showed bleeding gums, purpuric spots, and a nonpalpable spleen. The tourniquet test for capillary fragility was positive, platelets varied from 10,000 to 30,000, white blood count ranged from 2,000 to 3,800, clot retraction was absent, bleeding time was four minutes. On sternal aspiration no cells were obtained. Splenectomy was performed. The spleen was of normal size with a smooth capsule and prominent corpuscles. After the operation the patient oozed and oozed, was given transfusions several times but the hemorrhagic symptoms continued.

All three cases bring out a very important point, namely, unless all the findings of purpura are present and no other abnormal blood findings are present, hesitate to operate. In the two cases in which the diagnosis was finally made of leukemia, there was a leukopenia with a relative increase in the number of lymphocytes. In the third case, leukopenia and a sternal aspiration revealing no cells indicated the diagnosis of a possible aplastic anemia, hence the splenectomy should have been delayed for further studies.

2. Acute infections are sometimes accompanied by purpura with a thrombocytopenia as seen in typhoid, pneumonia meningitis and occasionally with exanthemas. In this series there were two cases. One case was seen during the course of a rather septic pneumonia and the other in a small child with a large boil or carbuncle

of the neck. Both cases cleared rapidly with the healing of the causes of the thrombocytopenia.

3. Chronic infections also, are seen as a cause of a drop in the platelet count with resultant purpura. Tuberculosis and subacute bacterial endocarditis are the two chief offenders in this instance. There were no examples of this type in this series of cases.

4. Drugs are perhaps the most common cause of lowered platelet counts and the list of drugs which have been incriminated is a long one, but the most common are neoarsphenamine, quinine, sedormid, phenobarbital and the sulfonamides. An example of this is seen in a thirty-three-year old white female who was admitted in 1933 with a history of having intravenous injections for her syphilis for the three months previously. She had been menstruating for one month and on examination was pale, and had tenderness in the left lower quadrant. The white blood count ranged from 2,900 to 3,400; there was a marked anemia, the bleeding time was eight to fourteen minutes, the platelets were 4,000. She was given transfusions several times and the platelets slowly rose to 38,000. No follow-up was possible.

5. In cases of advanced malignancy with metastases to the bone marrow low platelet counts are sometimes seen.

6. In cases of splenomegalies such as Banti's, Gauchers or hemolytic icterus low platelet counts are detected. No cases of these last two types were seen in this series.

The idiopathic type of thrombocytopenic purpura is divided into two categories by the type of course they follow, namely, acute and chronic. The more common type of acute case is that which recovers for a while then goes on to a chronic form. Other forms are those in which there is a complete recovery and the patient is well completely. Some of these cases which appear as perfectly normal relapse after a varying length of time. Certain of the acute cases, in spite of all therapy, finally succumb, and in these cases various types of lesions may be found.

One type of that which Rosenthal calls megakaryophthisis in which there is a marked diminution of the megakarocytes. In other cases one sees marked vascular changes with generalized small intravascular thrombi. In these fulminating cases the course of the disease may be very short as in the two cases reported by Denninger, wherein the entire elapsed time of symptoms was eight and one-half and eleven hours, respectively. In this series there were five acute cases with one fatality. This fatal case was one of the fulminating type, the child having symptoms for only thirty-six hours before the fatal termination. The other four cases recovered completely and left the hospital after transfusions.

The chronic type of idiopathic purpura hemorrhagica was seen in eleven instances and it is chiefly about these types of cases that this paper is concerned. This disease is most common in children and in young adults, especially girls. Of the sixteen cases, ten were in females whose average age was twenty-seven years. The etiology of the lowered platelets in these cases has been studied by many investigators and apparently there is more than one cause. Some of the workers believe that the vascular endothelium is injured and secondarily causes a fall in the platelets by causing their agglutination on the injured points. However, the majority of investigators are of the opinion that the essential factor is the platelets themselves and that they may be low in the peripheral blood because of poor production or by increased destruction. The lytic effect of the spleen on platelets was first suggested by Kaznelson in 1916. It is rather difficult to show phagocytosis of platelets in the spleen although it has been demonstrated. Poor production may be due to some substance elaborated by the spleen inhibiting the budding off of the platelets from the megakaryocytes, a sort of maturation defect; or it may be due to an actual depression of the megakaryocytes. This substance, thrombocytopen, has been demonstrated by Troland and Lee and recently

confirmed by Rose and Boyer. The majority of workers have been unable to confirm this.

The critical level of the platelets varies considerably in the opinion of various authors on the subject. However, in the great majority of cases purpuric phenomena occur when the platelet count is below 100,000. We believe that the best method for all practical purposes for the enumeration of blood platelets is the method of counting them in the blood counting chamber using a simple 3 per cent solution of sodium citrate as the diluent.

The symptoms of this disease are well known, they are: (1) hemorrhages into the skin, mucous membranes and internal organs. In these sixteen cases the most common site of the lesion was purpura of the skin and secondly, bleeding gums; (2) fever is not seen as a rule; though, in the acute cases this may be seen; (3) the spleen is only slightly enlarged although there are cases in which the enlargement has been pronounced; (4) when blood loss has been great, all the common symptoms of anemia will be present; (5) no adenopathy or hepatomegaly; (6) the white blood cell count is normal or there may be a slight leucocytosis with a normal differential or one which shows a slight increase in the polymorphonuclear count; (7) the platelets are diminished; (8) there is increased bleeding time; (9) absent clot retraction; (10) decreased capillary resistance, and (11) normal prothrombin time and coagulation time. This latter finding has been challenged by Nygaard who finds by his photo-electric technic that there is a delayed coagulation time in this disease.

In the chronic type, the platelets may be normal or decreased, though the capillary resistance and the tendency to bruise remain. One often sees exacerbations coinciding with the menses. Uterine hemorrhage may be the only symptom in these cases and the doing of the snake venom test is of differential value.

One should be on guard in those cases in which the amount of hemoglobin and red

blood cells is too low compared to the actual blood loss and in which leukopenia is present. In these cases a very careful differential count should be done to rule out aleukemic leukemia. Furthermore, a study of the bone marrow is of great importance for several reasons: (1) to determine if there be any form of leukemia present; (2) if there be an aplasia of the bone marrow, and (3) if there be a normal decrease in the number of megakaryocytes. Reticulocyte counts are of value to determine if normal red cell regeneration is taking place. In this series three cases of purpura with a leukopenia were found (exclusive of the two cases of aleukemic leukemia) and in these cases the results were not good. One patient was operated upon with death as a result. The other two patients continued to have purpuric phenomena.

Since many of these cases have bleeding from the gums as a chief symptom, they go to the dentist first; therefore, it is of vital importance that the dentist be cognizant of the disease. Outside of the sternal marrow study, all tests can be performed with ease and facility.

Wintrobe and his co-workers show that males as a rule recover from the first attack and hence the operation is more to be considered in females.

The differential of this disease is not hard if one recalls the necessary criteria that should be present. In the Henoch-Schoenlein type, joint pains and toxemia are frequent manifestations and these are not seen in the idiopathic type. Leukemia and aplastic anemia have been discussed. In hemophilia, there is a normal platelet count, normal capillary resistance, normal bleeding time and a marked prolongation of clotting time.

The spleen removed shows an endothelial proliferation of the Malpighian bodies and sinuses with an increase in the number of the reticulum cells throughout the whole organ. There is also seen an infiltration of polymorphonuclear eosinophiles and megakaryocytes. Occasionally, one sees phagocytosed platelets. In the bone marrow the

SURGICAL TEAM

SURGEON: John Roberts Phillips, M. D.

ANESTHESIST: Emilia Hoeflich, M. D.

FIRST ASSISTANT: M. L. Powers, M. D.

SECOND ASSISTANT: Mrs. Rebecca Hall Phillips, R. N.

SUPERVISOR: Sister Mary Albertine

ESSENTIALS

GOOD ANETHESIA

BRIGHT LIGHTS

TEAM ATTITUDE

GOOD EXPOSURE...(always praised by the
surgeon in charge)



WHEN A NEW RESIDENT CAN'T USE HIS HANDS,
DR. PHILLIPS ALWAYS ASKS THEM IF THEY
HAVE A PIANO...THEY LOOK UP AT HIM IN
AMAZEMENT, AND HE IMPRESSES THEM TO GET
A PIANO AND PRACTICE, AND SOON THEY WILL
BE ABLE TO USE BOTH HANDS, INSTEAD OF
ALWAYS RELYING ON JUST ONE....



INSTRUMENTS:

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The above are different
surgical houses where
Dr. Phillips orders his
instruments.



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Reports from surgeons using Pioneer Rollprufs of DuPont's neoprene indicate that these gloves are free of allergen in rubber sometimes causing dermatitis. They report also unusual finger-tip sensitivity, more comfort during operations and longer life under sterilizings. Flat-banded wrists—no roll to roll down.

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his own gloves to avoid
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Dr. Phillips tells His assistants
on an operation...."PUT BOTH YOUR
HANDS ON THE TABLE...DON'T STAND
THOSE LINE THE STATUE OF LIBERTY!



PAY ATTENTION TO GIVING ME THE PROPER THINGS,
HAND ME A PACK OF GAUSE, NOT JUST ONE PIECE...
YOU DON'T GO THE THE STORE FOR JUST ONE LOAF
OF BREAD!.....BE PROFESSIONAL AT ALL TIMES"



SURGICAL TRAY AND SET UP...WITH A FEW OF
DR. PHILLIPS FAVORITE INSTRUMENTS

DR. PHILLIPS ORDERS ALL OF HIS CHEST
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PILLING MADE THORACIC INSTRUMENTS



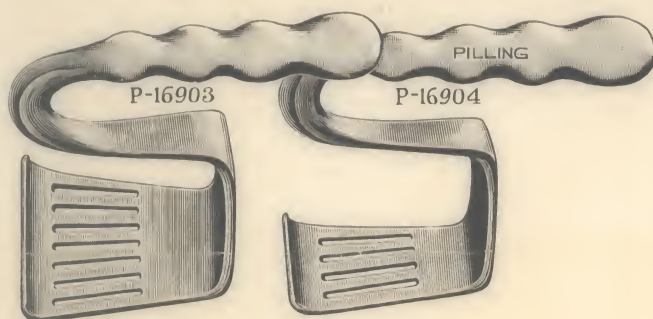
P 16872

P16872. Costal Periosteotome, John Alexander, for rib edges, combined with Farabeuf Periosteal Elevator, adult or child's sizes. \$9.00



P 16795

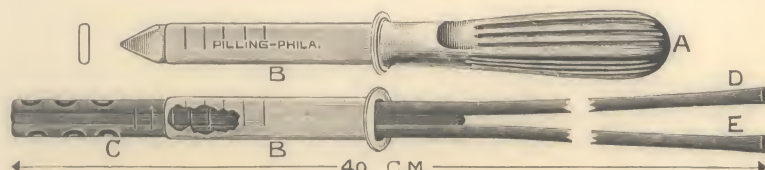
P16795. Lebsche Sternum Knife, bone cutting edge, protective terminal plate, checkered mallet face. \$19.50



P 16903—P 16904

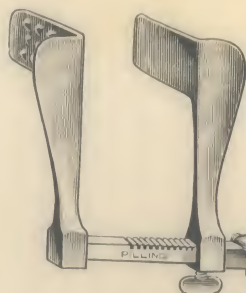
P16903-P16904. Scapula Retractors Davidson, design permits traction, with the least possible effort and discomfort, effective in good exposure in the lateral position by elevating scapula and separating rib muscle added at its origin. Two sizes, per pair. \$16.00

P16936. Inter-Costal Cannula and Trocar, flat on cross section, cannula slotted to make a flush spring fit back of trocar head. \$7.50



P 16936—P 16937

P16937. One piece 2-way Rubber Catheter, Lloyd, two independent channels, two independent 18 French Catheters, perforated and graduated in centimeters, each. \$5.50

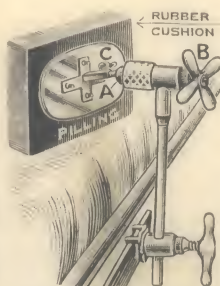


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P16803. Rib Spreader, Flick, ratchet operated, with set screw, contact faces roughened for traction. \$18.00

P16950. Tudor Edwards Operating Table Support, sponge rubber support adjustable in all directions (not including Table Clamp). \$33.00

P16954. Table Clamp as illustrated. \$8.50



P 16950—P 16954

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This is a needle holder like Dr. J. R. Phillips uses.

PHYSICIAN'S BAGS

This is a typical doctors bag.



This
EMDEE
Bag
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They like its styling . . . its easy access and large capacity . . . its sturdy structure . . . Fine black shark grain cowhide covers the Emdee frame of heavy angle steel; it has full leather drop type handles, and good, stout, protective leather corners. A concealed device locks the bag at both ends to eliminate petty thievery: a top turn lock instantly releases the lock and sets it for closing position.

The top, in two compartments, holds the sphygmomanometer on one side, dressings, hypodermic equipment, small instruments and packets on the other. Bottom compartment has adjustable loops for bottles, plus ample space for larger instruments and supplies. Entire interior is lined with a durable, washable, plastic-coated fabric.

LB-C70—Size 17 inches, each, \$35.00

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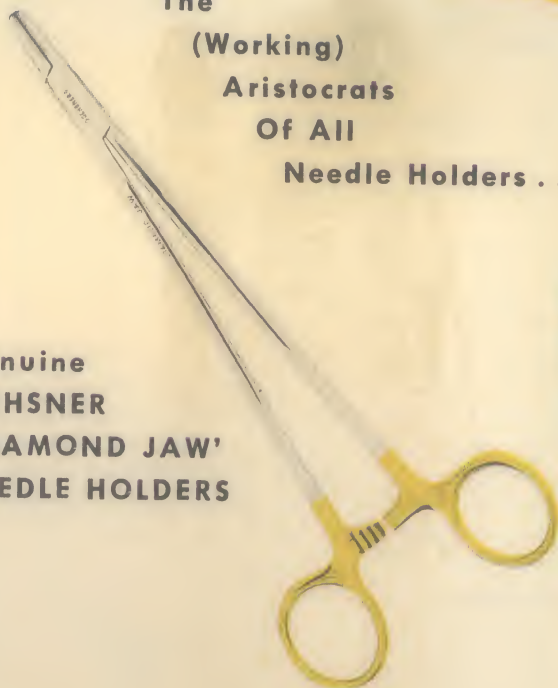
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Of All
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Preferred by surgeons everywhere, because of their special, hard, inlaid jaws which outgrip and out-last all others. Stainless steel, with gold plated finger rings for quick identification. Listed are the three most widely used standard patterns:

SU-C16060 Hegar, 6 inches. Each, \$15.75

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Medical Antiques

Instruments and medicine chests used by physicians during the 17th Century.

A FLEXIBLE ATRAUMATIC COMMON DUCT DILATOR

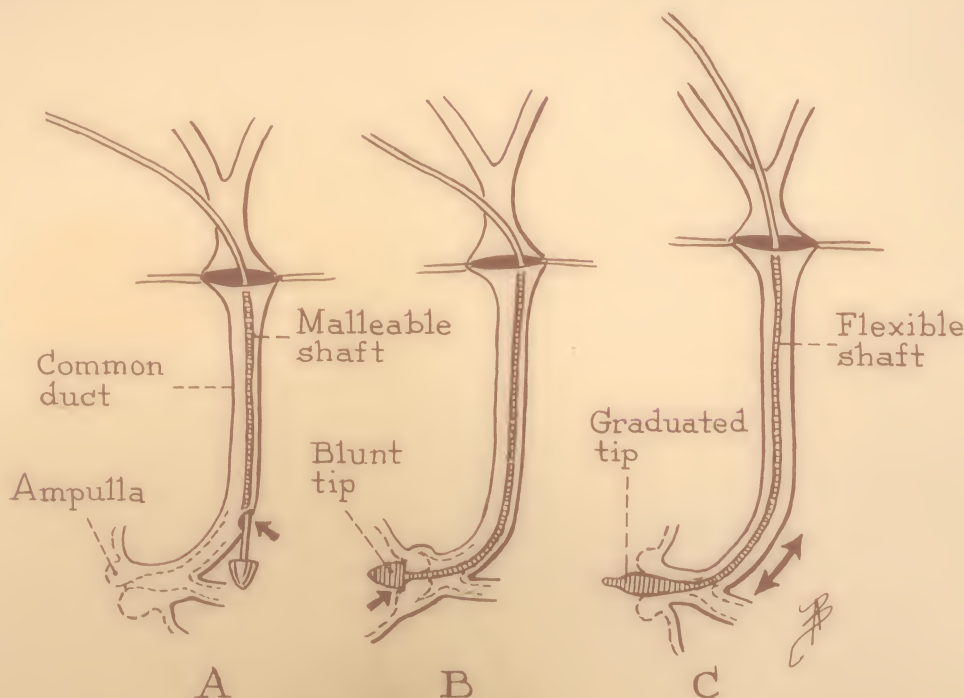
It has been our opinion for some time that the common duct probes and dilators presently available have some disadvantages that can be overcome. To be specific:

1. The dilators now in common usage have fairly rigid shafts. The possibility of a false passage is imminent if rigid shaft probes or dilators are used too vigorously (Figure A).
2. Such dilators are first bent into what the surgeon deems the most desirable position and remain in this position or shape until they are forcibly changed by the operator.
3. The present dilating tips or olives are of such a contour that they do not readily dilate the sphincter of Oddi in a gradual manner, and the trailing edge is such that in

removing the dilator this edge tends to hang up on the sphincter fibers (Figure B).

We have, therefore, constructed dilators based on the same general principles of the plumber's wire, which we feel overcome the above mentioned difficulties and, in addition, offer the following advantages: (See Figure C)

1. The probes are completely flexible, and will follow the course and contour of the common duct.
2. The dilating tip, or olive, is so shaped that it will gradually dilate the sphincter of Oddi in a gentle and atraumatic manner.
3. The dilating tip has a gradual taper from end to end, so that there is no drag created as the dilator is withdrawn.



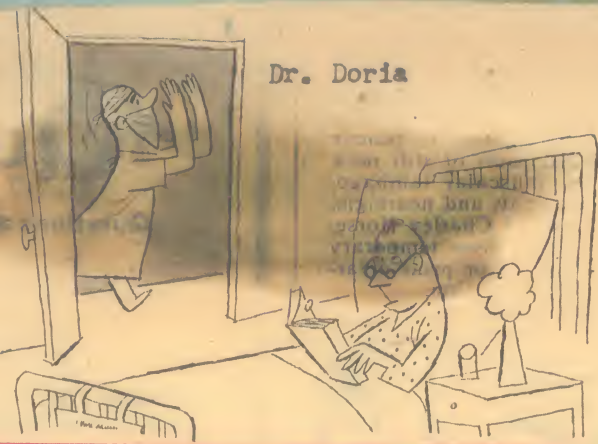
We have been using these dilators, made to our specifications, for the past eighteen months, and have been well satisfied with the results. The set consists of four, double ended, flexible dilators, sizes 11-13 Fr., 15-19 Fr., 22-25 Fr., and 27-29 Fr., each of which is 10" in length. The dilators are supplied in an appropriate size chrome plated tube with a friction fit cap, so that they may be sterilized in the tube with the cap removed, then the cap replaced in order to keep the dilators in a sterile state. The cap is attached to the tube by means of a bead chain.

The dilating olives are nickel silver, and the flexible portion is made of "Z" nickel spring wire wound on an

innerstaff of type 304 hard drawn stainless steel wire. The wire and spiral are permanently secured to the olives by means of silver solder.

It has been our experience that the above sizes have proved most satisfactory in our work, although practically any size could be made available. We have noticed, also, that one must develop a little different technique in using these dilators because of their flexibility. But with a little patience and experience, we have found them safe and have overcome the difficulties and hazards which one associates with the use of common duct dilators now in general use.

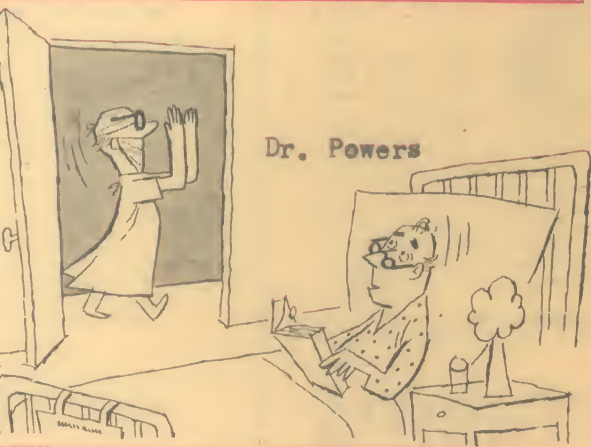
Dr. Doria



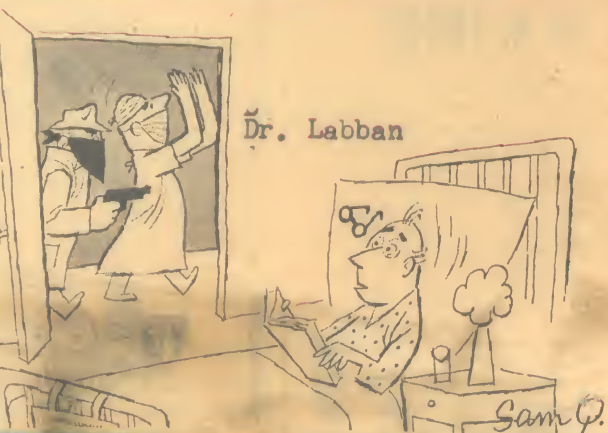
Dr. Vitore



Dr. Powers



Dr. Labban



PEOPLE ARE FUNNY

...OR BE CAREFUL AND PREPARED FOR ANYTHING
WHEN YOU KNOCK ON A PATIENT'S DOOR...



WHILE WAITING DR. PHILLIPS SERVICE, THE SUAVE DR. POWERS
KNOCKED ON A PATIENT'S DOOR WITH THE PURPOSE OF
OBTAINING A HISTORY AND PHYSICAL BEFORE SURGERY....
HE WAS TOLD BY THE PATIENT TO WAIT OUT ON THE PORCH
THAT SHE HAD THE BEST DOCTOR IN THE COUNTRY, DR. JIMPHILLIPS !

DR. POWERS DIDN'T GET TO FIRST BASE WITH HER.
DR. PHILLIPS TOLD DR. POWERS LATER THAT IT WOULDN'T BE
LONG BEFORE HE COULD WRAP ALL THE PATIENTS AROUND HIS
LITTLE FINGER AND WOULD BE ABLE TO WATERBURY LION
IN THE END





THREAD...NEEDLES...SPONGE STICKS
HOLDERS ..RETRACTORS

GALL BLADDER SCOOP ... DIAL...T TUBES
DRAIN TUBES





RETRACTORS





SCISSORS

New residents are eager to lay their hands on the scissors, Dr. Phillips always says, "LAY THAT PISTOL DOWN!",....he likes to do his own cutting...the longer the scissor the better he likes them.
These are a few of his favorites.



VEIN STRIPPER

Dr. Phillips says the Mayer stripper is the best...
The only wholesale house that sells this
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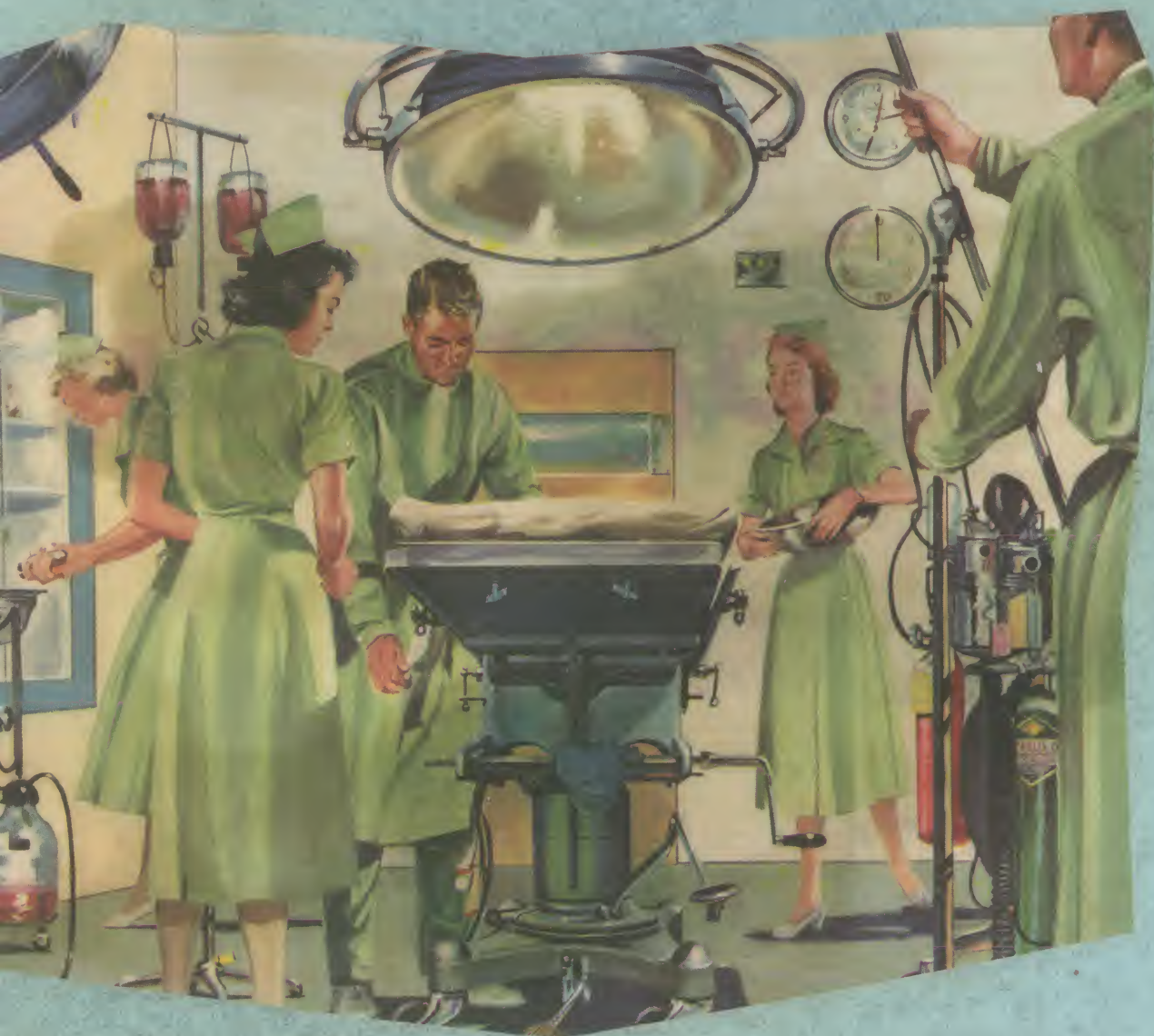
FACE STRIPPER AND NEEDLES





This is a picture of an operating room. It shows the position of the surgeon and his assistant. The anesthetist, and the two surgical nurses. Usually at St. Josephs Hospital, there is a surgeon, the first assistant, a resident, and a second assistant, an interne, there are usually two surgical nurses. Mrs. Rebecca Hall Phillips, R.N. is always on the team, and that makes three surgical nurses present at all times. It is customary in the big medical centers to have two residents, two surgical nurses and an interne. At times they have a circulating nurse. (usually two of them)

PREPARING THE OPERATING ROOM BEFORE SURGERY
IS JUST AS IMPORTANT AS ITS CONDITION
DURING SURGERY



THE PATIENT COMES FIRST

The patient is the most important person in the hospital.

The patient is not dependent on us - we are dependent upon him.

The patient is not an interruption of our work-- he is the purpose of it.

The patient is not someone with whom to argue or match wits.

The patient is an important individual. Like you, he has feelings, emotions, prejudices, and wants. It is not only our job to care for his needs, but to contribute in every way to his comfort and happiness.



PAPER WORK



PAPER WORK IS AS NECESSARY TO THE
SURGEON AS HIS PATIENT

ST JOSEPH'S HOSPITAL

Houston, Texas

Doe, Mr. John 4567 Blank Street, Houston, Texas Room No. Chart No.

and Time

15-57: HISTORY AND PHYSICAL:

Chief complaint: Feeling of nausea and discomfort in the upper abdomen. Weight loss. X-ray findings of a lesion near the pylorus, presumed to be an ulcer. Patient also has a sense of fullness.

PAST HISTORY: This patient was taken sick on June, 1954 with a feeling of nausea and discomfort in the upper abdomen. Patient had the usual childhood diseases. No history of any surgery ever performed. No history of any serious injury.

FAMILY HISTORY: Family history is negative for carcinoma, tuberculosis, diabetes, heart disease or Bright's disease.

SYSTEMIC REVIEW: General: General health is good. Blood count is normal.

R OF
RDING

Chief Complaint
History of
Present Illness
a) childhood
b) adult
c) operations
d) injuries
History of
Past Illness
Family History
Social History
Systemic Review

- a) General
- b) Skin
- c) Head-Eyes
Ears-Nose
Throat
- d) Neck
- e) Respiratory
- f) Cardio-vascular
- g) Gastro-Intestinal
- h) Genito-urinary
- i) Gynecological
- j) Locomotor
- k) Neuro-psychiatric

Skin: Skin is of normal texture.
Eyes: Pupils react to light and accommodation. Extra-ocular movements are normal.
Ears: No history of earache, no complaints.
Nose: No epistaxis.
Mouth: Tonsils still present. No mouth lesions.
Throat: Negative - no soreness at this time.
Neck: No palpable nodes in the neck.
Chest: Normal.
Heart: Heart sounds are good. Rhythm normal.
Abdomen: No palpable mass or gastric splash.
Genitalia: The genitals are negative.
Rectal: Rectal examination is negative. No hemorrhoids.
Extremities: Normal.
Neurological: Superficial and deep reflexes normal and active. No Babinski and no clonus.

7. Signature

DIAGNOSIS: Carcinoma of the pyloric end of the stomach with slight obstruction.

DURING THE WAR, DR. PHILLIPS DESIGNED AND USED HIS OWN HISTORY AND PHYSICAL SHEETS. HIS NURSE KEPT ONE COPY ON FILE AT HIS OFFICE....THIS GAVE THE PATIENT OPPORTUNITY FOR A BETTER CHECK UP, AS ALL INFORMATION WAS GATHERED BEFORE SURGERY.

DR. PHILLIPS ALWAYS WELCOMES A GOOD HISTORY AND PHYSICAL TAKEN BY A RESIDENT IF THE PATIENT WILL COMMIT HIMSELF.

JOHN ROBERTS PHILLIPS, M. D.

407 MEDICAL ARTS BUILDING

HOUSTON 2 TEXAS

History No. 12345Date of Registration Dec. 15, 1954Name Doe, Mr. John Age 36Address 4567 Blank Street, Houston, Texas Tel. _____Sex M Race W M S W D — Emp. by _____

Occupation _____ Bus. Add. _____ Tel. _____

Previous Address 897 Lamar, Houston, TexasNearest Relative Wife - Margaret Doe Tel. _____Address same.Accompanied by friend - Mr. Earl BrownRef.-Doctor Dr.History.—Date Dec. 15, 1954 Religion Catholic

B. P. _____ Temp. _____ Pulse _____ Resp. _____ Wt. _____

Operations _____

Mens. Hist. _____ Onset Q Days _____ Flows _____ Days _____ Last period date _____

Flowed _____ Amt. of pain _____ Bleeding between periods _____ Discharge _____

Marital _____ No. Children _____ Ages _____

CHIEF COMPLAINT: Feeling of nausea and discomfort in his upper abdomen.

This patient admitted to St. Josephs Hospital, December 15, 1954. He was taken sick on June, 1954 with a feeling of nausea and discomfort in his upper abdomen. Medical treatment gave him some relief, but he began to lose weight and has now lost about 14 pounds. In September, x-ray of his stomach was made and it was found that he had a lesion near the pylorus, which was considered an ulcer. He was put on medical treatment and rerayed again in October. At this time the lesion had changed some but there was still a good deal of deformity and this had not cleared up. About three days ago he was gastroscoped and a lesion was seen at the outlet of the stomach which looked malignant. The symptoms in the interim have been that of fullness, and a feeling of nausea. He had been put on a bland diet. I have reviewed the xrays and it shows a rather large filling defect in the pyloric end of the stomach, which I considered malignant from the very start. His general condition is good. His blood count is normal. The examination of the head and neck is negative, heart and lungs are negative. Blood pressure is normal, and the abdomen is negative. I could feel no mass and could feel no gastric splash. There are no palpable nodes. DIAGNOSIS: CARCINOMA OF THE PYLORIC END OF THE STOMACH WITH SLIGHT OBSTRUCTION. Differential diagnosis: With a man of his age of 36, we have to consider also that it is possible that he might have a myosarcoma or even a lymphosarcoma. However, I feel that it is a malignant lesion.

12-16-54: OPERATION: ST. JOSEPHS HOSPITAL - THREE-QUARTER RESECTION OF THE STOMACH, HOFMEISTER-POLYA ANASTOMOSIS. APPENDECTOMY. Anes. Spinal-general. Dr. Anesthetist.

12-27-54: Tube drain is out. The large stitches are out.

12-24-57: Dismissed from St. Josephs Hospital
2-17-57: Wt. 122 lbs. Under x-ray treatment. Really doing fine
3-2-57: No nodes in the neck
8-29-56: Examination of the head and neck is negative, breasts,
heart and lungs are negative. Abdomen is negative. Right upper
abdominal scar. Genitals and rectal negative. B/P 120/70.
Sigmoidoscopy for 25 cm. neg.
9-5-57: Stomach and chest x-rays negative.
1-15-57: Patient comes in with a feeling of a knot in the left
side overlapping the ribs. He noticed this two months ago. There
is no associated pain. EXAM: B/P 130/70. Rt. and lungs
neg. Abdomen is negative. Scar is barely perceptible. Rectal
and prostate negative. Chest x-ray.
1-15-57: X-ray examination of the chest, P.A. and lateral
reveals no evidence of any parenchymal lung infiltration.
The heart diaphragms and ribs appear normal. OPINION:
Negative chest. Read by Dr. Radiologist.
10-7-57: Patient comes in for check-up. Has been bothered with
a sore throat for about a month, gradually getting worse.
Has some difficulty swallowing. No fever, and no recent cold.
Gastro-intestinal: Appetite is good. Bowels moving alright.
No pains or gas in the stomach. No change in appetite or
bowel habits. Wt. 131, and weight stays about the same. Genito-
urinary: no trouble with kidneys or bladder. EXAM: Red throat.
Complete physical otherwise negative. Sigmoidoscopy for 25 cm
negative. Penicillin and medication given.
12-1-57: Has been feeling fine. No complaints. Physical
examination negative.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon: John Roberts Phillips	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis:

Umbilical hernia with diastasis recti
 Uterine enlargement.
 Adenomyosis. (?)
 Previously ligated tubes.
 Retroversion.

Postoperative Diagnosis:

Uterine prolapse, Gr. II /.
 Dense pelvic adhesions.
 Sebaceous cyst of the perineum.

OPERATION:

Dilatation and curettage.
 Total abdominal hysterectomy.
 Bilateral salpingectomy.
 Left oophorectomy.
 Repair of umbilical hernia.
 Excision of sebaceous cyst of the perineum.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

A dilatation and curettage revealed very few scrapings which were reported immediately as benign. The cervix had an old fish-mouth laceration. There was a Grade II / prolapse, but due to the previous pelvic operations and the markedly enlarged uterus, I felt it was advisable to do a hysterectomy transabdominally. I was glad about this decision because the sigmoid was densely adhered to the uterus and there were omental adhesions on the right side forming an internal window above the round ligament. She apparently had some previous round ligament suspension as well. The right ovary was normal. It was preserved. I did a total hysterectomy, removing both tubes and ovaries. The uterus was about twice normal size, and when it was cut open, it was very thick and suggested adenomyosis. The appendix had been removed previously. Examination of the gall bladder, stomach, duodenum, esophageal hiatus, spleen, both kidneys, both adrenals, entire colon and terminal ileum was negative. No drain. Risk: 1/2%.

REPORT OF OPERATIONS

Dictated to:

Date of Dictation:

Dictated by: Dr. John Roberts Phillips

M.D.

SLTC OR

Signature of Surgeon

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
		John	Roberts Phillips		
	1. Assist		2. Assist	Date	
				December 6, 1957	

Preoperative Diagnosis:

Obstructing lesion of the lingular bronchus with resulting segmental atelectasis. (inflammatory)

Postoperative Diagnosis:

Same.

OPERATION:

Major thoracotomy.
Left lingular lobectomy. (lung)
Removal of two hilar nodes.

Findings (including the condition of all organs examined) and Procedures (including incision, ligatures, sutures, drainage, sponge count and closure)

The chest was opened through the bed of the sixth rib. There was an area of segmental atelectasis, involving the lingula. The lower lobe was perfectly normal, and there was no evidence of any mediastinal tumor. There were some large hilar nodes. Two of these were dissected out in pieces, and they did not seem to be involved in any malignant process, although one of them was quite hard. After it was removed, however, it looked entirely inflammatory. Because of this segmental atelectasis, I felt it was best to remove the lingula completely to completely remove the diseased area. Quick section examination by the pathologist, was reported as inflammatory atelectasis, bronchitis. The bronchus was closed with silk. The lobes were approximated. Re-expanded well. Two tubes put in the chest - one posteriorly and one anteriorly. The patient was given 500 cc of blood and he stood the procedure well.

NOTE: The interlobar fissure was completely obliterated by adhesions, and there were a good many adhesions of the lung to the chest wall posteriorly, particularly at the level of the interlobar fissure.

Dictated to:

Date of Dictation:

Dictated by:

SLTC OF

Signature of Surgeon

M.D.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
Doe,	Mr.	John			
	1. Assist	2. Assist		Date	

Preoperative Diagnosis:	Ulcerating lesion outlet of the stomach.
	Linitis plastica (?)
	Lymphosarcoma (?)
	Chronic appendicitis.

Postoperative Diagnosis	Same.
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OPERATION: Three-quarter resection of the stomach.
Anterior Hofmeister-Polya anastomosis.
Appendectomy.

ANESTHETIC: Spinal- General.

Findings (including the condition of all organs examined) and **Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

Exploration through an upper midline incision revealed an infiltrating lesion at the lower three inches of the stomach, down to the duodenum. There was no peritoneal involvement, and I was unable to determine by palpation whether the lesion was inflammatory or malignant. There were many large nodes that lay along the lesser curvature and around the head of the pancreas. I did a radical resection, removing all of the greater omentum and the lesser omentum, together with the lymph node dissection around the head of the pancreas. The three lymph nodes were submitted for microscopic study and all were reported as negative for metastasis. The stomach was removed before closing the duodenal stump, and it looked like we were too close to the lesion, that I decided another cuff of 1.5 cm. to 2 cm. should be removed. This was done, and then the duodenal stump turned in. Everything worked out exceptionally well. The examination of the liver and gallbladder was negative, as was the colon.

The appendix was kinked and bound down. It was removed and the stump inverted. The terminal ileum was negative for Meckel's diverticulum. One catheter in Morrison's pouch was brought out through a stab wound. The patient was given two pints of blood during surgery and he stood the procedure well. After examining the specimen, the pathologist, on quick frozen section, said the most probable diagnosis seemed to be a lymphosarcoma.

Dictated to: Miss Secretary

Date of Dictation: 12-16-54

Dictated by:

SLTC OR

Signature of Surgeon M.D.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis:

Menorrhagia with secondary anemia.
 Eroded, lacerated cervicitis.
 Adhered appendicitis (kinked).
 Mesenteric adenitis.

Postoperative Diagnosis:

Same.

OPERATION:

Dilatation and curettage.
 Biopsy of the cervix.
 Conization of the cervix.
 Appendectomy.
 Removal of mesenteric node.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

The uterus was unusually soft and boggy. There were very few scrapings with no evidence of placental tissue. A cold knife conization was done on the cervix which was reported as chronic cervicitis. The abdomen was then opened through a low midline incision. There was about a half-cup of dark bloody fluid in the cul-de-sac (old blood). The appendix was kinked and bound down. I could not make out any evidence of a ruptured Graafian follicle although that is probably where the bleeding had come from. The tubes and ovaries were normal. I had Dr. Peter Marcuse come out and we discussed the problem, and decided the extreme softness of the uterus was on a functional basis. Her frog test was negative. Examination of the gallbladder, stomach, duodenum, esophageal hiatus, spleen, both kidneys, both adrenal areas, entire colon and terminal ileum was negative. No drain.

Risk: 1/2%.

Dictated to:

Date of Dictation:

Dictated by: Dr. John Roberts Phillips.

SLTC OR

Signature of Surgeon

M.D.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis:

Nodular hyperplasia, right lobe and isthmus of the thyroid.

Postoperative Diagnosis:

Same.

OPERATION:

Right total thyroid lobectomy with removal of the isthmus.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

Through a usual collar incision, the prethyroid muscles on the right were divided. The nodule was in the right lobe and the isthmus. The right lobe was completely removed. It was rather densely adhered to the muscles and to the trachea. It was definitely nodular in situ, but as soon as it was removed, there was no true adenoma. Quick section revealed a hyperplasia. There was no evidence of malignancy. One tissue drain into the right of the trachea. The left lobe was much smaller than the right and felt perfectly normal. The patient stood the procedure well.

Dictated to:

Date of Dictation:

Dictated by:

SLTC OR

Signature of Surgeon

M.D.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis: Subacute cholecystitis with stone.
Subacute appendicitis.

Postoperative Diagnosis: Same.

OPERATION: Cholecystectomy.
Appendectomy.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

Exploration through an upper midline incision excising the slab of fat in the umbilicus to facilitate exposure revealed a stone wedged in the cystic duct. The gallbladder was collapsed. I did a cholecystectomy individually ligating the cystic duct and the artery. The common duct appeared normal and was not dilated. No stones could be felt in it, and it did not seem advisable to explore it. The stomach and duodenum was negative. The appendix was high lying, right up under the gallbladder. It was removed as it was subacutely inflamed at this time, kinked and bound down. It was removed and the stump inverted. The terminal ileum was negative. Examination of the pelvic organs, internally was negative, but she has a very badly infected, eroded cystic cervicitis.

Dictated to:

Date of Dictation:

Dictated by:

M.D.

SLTC OR

Signature of Surgeon

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis: Congenital atrophy of the left kidney.
 Carcinoma of the cervix with iliac and pre-aortic nodal metastasis.
 Right hydronephrosis.

Postoperative Diagnosis: Same.

OPERATION: Biopsy of pre-aortic node.
 Liberation of right ureter.
 Right salpingo-oophorectomy.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

Exploration through a low midline incision excising the umbilicus revealed the uterus, tubes and ovaries to be quite free, and from a local standpoint, the lesion was an easily operable one. We divided the right round ligament opened the right peritoneal gutter, divided the right ovarian vessels high, which brought us down on the right iliac vessel, and the right ureter. The right ureter was caught in a cementing type of mass, metastatic in origin. This mass was densely adhered to the artery and vein, We were able to free up the ureter, clear up to the pelvis. It was markedly dilated above this obstructing mass. The right obturator foramen was freed, it was opened, and the obturator nerve was visualized. The internal iliac artery was freed and could have easily been ligated. Because of the disturbance of the right tube and ovary, it was removed. The raw surfaces were reperitonealized. The appendix was just a string, completely retrocecal, buried in adhesions. It was not removed. Examination of the liver was negative. The gallbladder contained no stones. The esophageal hiatus admitted two fingers. The stomach and duodenum were negative. The retroperitoneal mass ran right up to the second portion of the duodenum. The left kidney was not palpable, however this is a left ureter, so this represents either a congenital absence or more likely, just a nubbin of the left kidney. No drain. Risk: 1 %.

Dictated to:

Date of Dictation:

Dictated by:

SLTC OR

Signature of Surgeon M.D.

REPORT OF OPERATION

Family Name	First Name	Middle Name	Surgeon:	Room No.	Hosp. No.
			1. Assist	2. Assist	Date

Preoperative Diagnosis: Carcinoma of the glands left side of the neck.

Postoperative Diagnosis: Same.

OPERATION: Radical left neck dissection.

Findings (including the condition of all organs examined) **and Procedures** (including incision, ligatures, sutures, drainage, sponge count and closure)

Through a linear and two transverse incisions the neck was opened widely on the left side. There was a mass of nodes in the lower portion of the neck, just above the clavicle. A complete neck dissection removing the sternomastoid, the internal jugular vein, and ligating the external carotid artery was carried out. The submental and submaxillary areas were also completely dissected. One tube drain for suction decompression. The patient stood the procedure well. Risk: 1/2%.

Dictated to:

Date of Dictation:

Dictated by:

SLTC OR

Signature of Surgeon

M.D.

CHRONIC DUODENAL ULCER: MALFUNCTIONING
GASTRO-ENTEROSTOMY

DISCONNECTION OF GASTRO-ENTEROSTOMY; JUDD
EXCISION OF DUODENAL ULCER CLOSING AS A
GASTRO-DUODENOSTOMY

This patient, a white female aged forty five years had had a gastro-enterostomy made about six years ago for a duodenal ulcer. In the past year there had been two severe gastric hemorrhages, associated with pain and suggestive of jejunal ulcer. She was operated upon 8-24-35, both limbs of the jejunum were markedly dilated. There was some angulation of the anastomosis. The gastro-enterostomy was taken down and there was no ulceration of the jejunum. There was a chronic duodenal ulcer which was not active at the present time. It was excised using the Judd technique. The patient has made an uneventful recovery.

NOTE:

Activation of an old duodenal ulcer is not infrequently caused if there is a malfunctioning gastro-enterostomy. It is not difficult to disconnect a gastro-enterostomy and the risk is probably less than five percent in a procedure such as was carried out in this case.

CHRONIC BLEEDING DUODENAL ULCER. GASTRO JEJUNAL ULCER
DISCONNECTION OF GASTRO-ENTEROSTOMY; ANTERIOR POLYA.

The patient, a white male aged thirty three years had had a duodenal ulcer for a number of years. Several years ago a posterior gastro-enterostomy was made and soon thereafter a jejunal ulcer formed which perforated into the colon. This perforation was operated upon and the openings closed. The gastro-enterostomy was not taken down at that time. The patient had become quite anemic due to multiple gastric hemorrhages. On 10-13-34 I took down the gastro-enterostomy but due to difficulty I did not do anything to the duodenal ulcer which was healed at that time. After a few weeks definite evidence of aggravation of the duodenal ulcer occurred, this was associated with severe bleeding. On 1-3-35 I resected about four fifths of the stomach and made an anterior Polya type of anastomosis. The duodenal ulcer had become very acute in the interval of operations. The patient has been perfectly well since this procedure.

NOTE:

This case represents one of the very troubling things that occasionally occur, following a gastro-enterostomy and should always be guarded against in the young individual.

CHRONIC DUODENAL ULCER.

EXCISION OF ULCER: GASTRO DUODENOSTOMY

The patient, a male aged forty five years had had a typical type of ulcer distress for a number of years. The symptoms had not been entirely relieved by a medical regimen. Xray revealed a duodenal ulcer. He was operated upon 7-22-35. There was an ulcer on the anterior wall of the duodenum which caused pouching. The duodenum was easily mobilized so that the ulcer-bearing area could be completely excised together with the anterior two thirds of the pyloric sphincter muscle. The operation was completed as a gastro-duodenostomy (Judd type). The patient has been symptom free since this operation.

NOTE:

This type of operation should be done if possible in the young individual where there has been previous bleeding or where there is a possibility of new ulcer formation. It can be carried out satisfactorily in about one half of all cases of duodenal ulcers requiring operation.

DUODENAL DIVERTICULUM

INVERSION OF DIVERTICULUM

POSTERIOR GASTRO-ENTEROSTOMY

This patient, a white female aged forty eight years had had a distress for the past eight years. The pain often became colic-like so that a diagnosis of gallbladder disease was made. Xray examination revealed a large diverticulum arising from the second portion of the duodenum. At operation 8-26-35 a large diverticulum measuring about $7\frac{1}{2} \times 7\frac{1}{2}$ ccms. arose from the medial portion of the duodenum near the ampulla of Vater. It was impossible to excise it because of its position. The diverticulum was inverted into the duodenum and a posterior gastro-enterostomy was made.

NOTE:

Duodenal diverticulæ are being seen much more frequently now than formerly. Ordinarily we do not consider them to give very much trouble unless they obtain a fair size such as illustrated by this case.

CARCINOMA OF THE STOMACH

PARTIAL GASTRECTOMY: POSTERIOR POLYA.

The patient, a white male aged seventy two years had had stomach distress for only a few weeks. His previous health had always been very good. His son-in-law being a doctor, advised xray in spite of the mild gastric symptoms. This revealed an ulcerating lesion at the outlet of the stomach. On 4-28-34 operation revealed an ulcerating, obstructing carcinoma at the pylorus. About one half of the stomach was removed and the operation was completed as a posterior Polya procedure.

NOTE:

When properly prepared, elderly patients stand major gastric surgery surprisingly well. Age in itself should be no contraindication to operation.

CHRONIC GASTRIC ULCER.

SLEEVE RESECTION

The patient, a male aged thirty eight years, had had a definite type of ulcer distress for a number of years. A diagnosis of gastric ulcer had been made by xray two years ago. There had been bleeding on a number of occasions. He was operated upon 5-21-34 and a chronic perforating gastric ulcer high on the lesser curvature of the stomach was found. It had sealed itself onto the pancreas and retro-peritoneal tissues. About two thirds of the stomach was removed by a sleeve type of resection.

NOTE:

It is necessary that the ulcers of the stomach be removed for even by palpation often one cannot tell whether the process is benign or malignant. Ulcers of the body of the stomach can be readily removed by a sleeve type of resection.

MULTIPLE GASTRIC ULCERS WITH CHRONIC HEMORRHAGIC GASTRITIS

PARTIAL GASTRECTOMY - POSTERIOR POLYA

This patient a white female aged thirty eight years, had had a typical ulcer type of distress for the past two years. Xray examination revealed an ulcer on the greater curvature of the stomach near its outlet. At operation 2-28-35, the entire lower one half of the stomach was thickened and involved in an inflammatory process. No ulceration could be palpated. Due to previous gastric hemorrhages and xray findings, a partial gastrectomy was decided upon and carried out. About two thirds of the stomach was removed.

NOTE:

In these cases of multiple ulcers associated with chronic gastritis, a partial gastrectomy is required. A gastro-enterostomy is contraindicated because of the likelihood of the jejunal ulcer. The procedure of partial gastrectomy was decided upon because of the clear-cut history and the definite xray diagnosis as stated. No ulceration could be palpated at operation, yet numerous superficial ulcers were present in the specimen.

CHRONIC PERFORATING DUODENAL ULCER

POSTERIOR GASTRO-ENTEROSTOMY

The patient, a white male aged forty two had had a typical ulcer type of distress for the past eight years. There had been perforating characteristics for the past two years. Xray examination revealed a duodenal ulcer.

At operation 12-1-34 a sub-acute ulcer on the posterior wall of the first part of the duodenum was found. The ulcer had perforated onto the head of the pancreas forming a mass the size of a small walnut. An all cat-gut posterior gastro-enterostomy was made. The patient has been entirely symptom free since operation.

NOTE:

The sub-acute condition of the ulcer and its position precluded any direct attack upon the ulcer itself.

Gastro-enterostomy is a safe procedure and gives excellent results in these cases.

CHRONIC DUODENAL ULCER WITH OBSTRUCTION.

POSTERIOR GASTRO-ENTEROSTOMY.

The patient, a white male aged 44 years had had spells of indigestion for five years, typical of duodenal ulcer. During the past three or four months he had a marked weight loss due to inability to retain food. Xray examination revealed an obstructing lesion at the outlet of the stomach. At exploration a chronic duodenal ulcer with practically complete obstruction was found. A posterior gastro-enterostomy was made. The patient made an uneventful recovery.

NOTE:

This type of case represents a most suitable one for a gastro-enterostomy. The results following a gastro-enterostomy in such a case are uniformly good.

MYO SARCOMA OF THE STOMACH

PARTIAL GASTRECTOMY: POSTERIOR POLYA

The patient, a white male aged 30 years had always enjoyed good health until three months ago at which time a rather severe secondary anemia developed. There had never been any symptoms referable to the stomach, however, an xray examination revealed a large ulcerating lesion on the lesser curvature near the pylorus. The patient's hemoglobin on examination was 30. After three transfusions an exploration was made and a large ulcerating growth was found near the pylorus. The glands along the lesser curvature were involved. About four fifths of the stomach was removed and the operation completed as a posterior polya procedure. The patient's post operative course was uneventful. He was able to return to his usual work two months after operation.

NOTE:

Any patient who presents himself with an unexplained anemia should have a fluroscopic examination of the stomach and colon made to exclude lesions in these areas.

CARCINOMA OF THE STOMACH

PARTIAL GASTRECTOMY; POSTERIOR POLYA

The patient, a white male aged fifty seven years had had an ulcer type of distress for a number of years. In the past few months obstruction had developed and there had been marked loss of weight. Xray revealed an obstructing carcinoma at the pylorus. Operation 3-24-34 revealed an ulcerating carcinoma at the pyloric end of the stomach. It had perforated onto the head of the pancreas and was completely obstructing the outlet of the stomach. The growth had to be shaved from the pancreas. About two thirds of the stomach was removed and the operation completed as a posterior Polya type of procedure. It is now almost two years since this patient was operated upon and in spite of the fact that the growth had sealed onto the pancreas he is living and has gained about forty pounds in weight.

NOTE:

The curability of cancer of the stomach is well recognized. If permanent cure cannot be expected, relief from obstruction, infection and bleeding can often be had for a considerable length of time. Exploration should be offered every patient with cancer of the stomach where there is no evidence of distant or irremovable metastasis, if the patient can be put into satisfactory condition.

GASTRIC SYPHILIS WITH PYLORIC OBSTRUCTION

PARTIAL GASTRECTOMY: POSTERIOR POLYA.

The patient a white male aged forty eight years had had trouble with his stomach for only a short time. The distress had ulcer characteristics with obstruction. Xray revealed an obstructing lesion at the outlet of the stomach. At operation 6-18-35 exploration revealed an obstructing lesion at the pyloric end of the stomach - the mass being about the size of a small orange. The pathological nature of the lesion could not be determined by palpation. About four fifths of the stomach was removed and the operation was completed as a posterior Polya procedure.

NOTE:

Gastric syphilis is a very uncommon condition. A lesion occurring in the stomach in a patient with syphilis will usually be carcinoma. In this case a procedure of partial gastrectomy was clearly indicated because of the uncertainty of the pathological nature.

CARCINOMA OF THE STOMACH

PARTIAL GASTRECTOMY; POSTERIOR POLYA.

The patient, a white male aged seventy two years gives only a very short history of gastric distress. His previous health had always been excellent. Xray examination of the stomach revealed an ulcerating lesion near the pylorus. The diagnosis was carcinoma of the stomach with obstruction. From an xray standpoint operability was considered doubtful. After pre-operative preparation a partial gastrectomy of posterior Polya type was done for carcinoma of the pylorus. There was one metastatic nodule on the right lobe of the liver. The growth was easily operable, there being plenty of good stomach above the lesion. About two thirds of the stomach was removed.

NOTE:

Exploration should be carried out in all cases of cancer of the stomach where there is not evidence of incurability. It is not infrequent to find a lesion operable which from xray appearances will appear to be inoperable. Since we know that operation is the only hope for relief, the patient should not be denied this opportunity.

LYMPHOSARCOMA OF THE STOMACH WITH INVOLVEMENT OF THE
TRANSVERSE COLON

PARTIAL GASTRECTOMY;BALFOUR POLYA; OBSTRUCTIVE RESECTION
OF THE TRANSVERSE COLON WITH CATHETER COLOSTOMY

The patient was a white male aged twenty years, who had had gastric symptoms for about one year. Xray examination of the stomach about three months ago revealed a large ulcerating growth of the stomach. The patient denied operation. On March 6,1935 about four fifths of the stomach together with a greater part of the transverse colon and and transverse mesocolon was removed for a large ulcerating lymphosarcoma of the stomach.

NOTE:

Lymphosarcoma makes up a very small percentage of gastric malignancy. The lymphoid type is the most common of the sarcomas. The prognosis following resection of such growths is fair. One case has been reported as living for more than twenty years after operation.

CARCINOMA OF THE PYLORIC END OF THE STOMACH WITH

OBSTRUCTION.

POSTERIOR GASTRO-ENTEROSTOMY.

The patient, a white male aged 68 years had always enjoyed good health. Six months previously a slight epigastric distress developed. Three weeks ago vomiting occurred. Xray examination revealed an annular growth near the pylorus with obstruction. At operation on 1-15-36 a large cancer of the middle third of the stomach which was completely encircling it and causing practically complete obstruction was found. There were numerous implants on the peritoneum and the growth extended up to the esophageal opening making it totally inoperable. A posterior gastroenterostomy was made to relieve obstruction. The patient succumbed on 2-8-36.

NOTE:

This case represents a tragedy of cancer of the stomach. Gastro-enterostomy has no place in the treatment of cancer of the stomach only as a palliative measure to relieve obstruction.

PEPTIC ULCER OF THE ESOPHAGUS WITH SPASM.

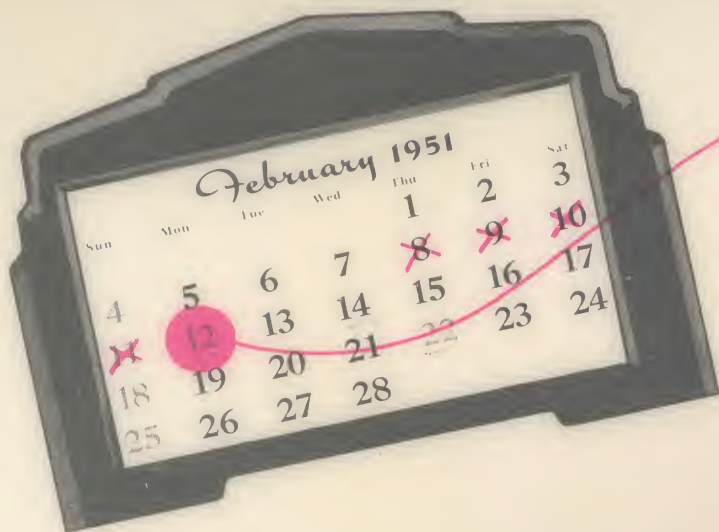
GASTROSTOMY.

The patient, a doctor's wife 57 years of age, for the past four years had had difficulty in swallowing. For the first two years the difficulty was progressive and for the past two years it has been more or less constant. There has been a good deal of spasm with pain, requiring morphin and at times chloroform for relief. Xray examination revealed a narrowing of the lower end of the esophagus. An esophagosopic examination revealed ulceration. The tissue removed proved to be benign. Due to the acuteness of the local condition and the general rundown condition of the patient, dilatation was not thought advisable. A gastrostomy was done 2-19-36 at that time examination of the stomach and duodenum and the lower end of the esophagus was negative. The patient's general condition at the present time is very good. She has gained in weight and the dehydration has been overcome. Xray of the esophagus shows the condition to be improved. Retrograde dilatations are about to be started.

Self
Examination
of the
Female
Breast



SELF-EXAMINATION of her own breasts is woman's best answer to the menace of breast cancer. Indeed, it is at present the only really effective answer. When cancer symptoms in the breast become obvious, they usually mean that the disease is far advanced. But the success of treatment depends largely upon how *early* that treatment can be instituted. Therefore, the individual woman must learn to watch for and to recognize the disease before it becomes advanced. Only in this manner may the threat of cancer of the female breast be eventually reduced.



CANCER OF THE BREAST is the most common type of cancer in women. It comprises more than 25 per cent of all cancer in women, and approximately three in five of its victims die of the disease. It would seem that breast cancer, located as it is in an external organ accessible to daily touch and vision, might be frequently noticed in its early stages and effective treatment begun immediately. Usually, however, this is not the case. Breast cancer is still responsible for more deaths in women than tumors in any other location in the body.

Fortunately, something can be done about this situation. Cancer of the female breast seldom gives any pain or produces any other alarming symptoms in its early stages. Therefore, the only method at present of reducing the high mortality rate is the regular examination of the breasts of women who present *no* symptoms of cancer.

These examinations should be monthly, in order that any new lesion may be located in time to present a favorable outlook for cure. However, since a woman usually does not see her physician as often as this, it is more practical for her to learn to examine her own breasts. This self-examination is easy to learn and can be conveniently fitted into her normal routine of living. Furthermore, a woman can often locate abnormalities in her own breasts more readily than can her physician. After a little practice, she will become familiar with the normal structures in her breasts and with their individual arrangements, and will be quick to note even a small new growth. Her physician, however, may pass over a small lump among the other palpable formations to be found in every normal breast.

The woman should set up a regular schedule for monthly breast examination—ideally, immediately following the end of her menstrual period. Temporary changes and tenderness occur normally in the breasts during the period so that an examination then may be unsatisfactory. However, the menstrual period will serve as a reminder for the woman to inspect her breasts. After the menopause, monthly examinations should be continued, for breast cancer occurs more often between the ages of 40 and 70 than at earlier periods. A sleepless night of anxiety about the suspected presence of an abnormal lump will be avoided if the examination is performed upon arising in the morning.

She should be aware that not every lump in her breasts is a cancer. In fact the majority will be nonmalignant. Nevertheless, when she detects a lump of any size, she should consult her physician immediately. To say the least, this course of action will certainly add to her peace of mind.

Among the abnormalities, aside from lumps, which she may find — and for which she should look — are dimpling or puckering of the skin of her breasts, retraction of either nipple, any visible thickening or loss of mobility, or any pronounced lack of symmetry in size, contour, or position. Of course, a discharge from the nipple demands explanation, though it may not originate from a cancer. Pain, swelling or inflammation are usually indications of nonmalignant conditions but all may be symptoms of advanced cancer. These, then, are things for which the woman watches in her breasts. The signs she seeks are not obvious signs, unless an advanced cancer is present.

So she must regularly inspect her breasts for the least obvious indications, even when she has no reason to believe that her breasts are not perfectly normal. Thus, any cancer which may develop will never be allowed to become advanced. At the expense of no more than a few minutes each month the woman has reassurance and safety. In her own hands, and her mirror, she possesses the most potent weapon known for combating cancer of the breast.



IN THE initial step of a self-examination of the breasts for cancer, the woman places herself squarely before a mirror, her arms at her sides, and posture erect. She carefully examines her breasts in the mirror for symmetry in size and shape, especially noting any puckering or dimpling of the skin or retraction of the nipple.

After this portion of the examination, she raises

her arms over her head and again studies her breasts in the mirror, looking for the same signs as before. In addition, she watches for any evidence of fixation of the breast tissue to the chest wall as she moves her arms and shoulders. The relative positions of the breasts on the chest wall are checked; if one has recently become more pendulous or enlarged than the other, her physician should be consulted.



TO PERFORM the second half of the self-examination of her breasts, the woman reclines on her back on a bed. This position allows the breasts to spread over a greater area, and thins the breast tissue. Consequently, the structures within her breasts will be more easily felt. In this position, however, she will find that the breasts tend to spread apart and to hang slightly to the sides. She must place a flat pillow or folded towel under the shoulder on the same side as the breast she will first examine. This raises that side of her body, distributing the weight of the breast tissue more evenly over the supporting chest wall.

Now, with her arm at her side, she places the opposite hand over the breast to be examined. With the *flats* of her fingers, she gently presses the breast tissues against the chest wall, beginning

with the outer half of the breast. She systematically feels that entire half of the breast. Special attention is paid to the upper, outer quadrant, where the tissues are thickest, and where the most tumors occur.

Upon completion of this routine, she raises the arm above her head and examines the inner half of her breast thoroughly, beginning at the breast bone. Then the padding is changed over and placed beneath the other shoulder. The woman now investigates the second breast in exactly the same manner, with the arm on that side first down, and then raised over her head.

After repeating this process at regular intervals for a few months, she will become familiar with the feel of the normal structures in her breasts. Thus, she will be able to detect immediately any unusual lump as soon as it appears.

THE POSITIONS and several stages of the process of self-examination of the breasts are illustrated on these two pages. By studying these pictures, a woman may learn the correct posture, arm positions, and the proper placing of the padding under her shoulders. In addition, she will see illustrated several of the vital steps of the examination. Emphasis has been placed on the danger areas, where the greatest percentage of breast cancers develop — in the armpit and nipple regions.

If a woman is to detect breast cancer in its early stages, by examining her own breasts, she must be thorough. This technique will be valueless if the woman allows the habit to lapse after a few reassuring inspections. The weapon has been placed in her hands, but it must be used regularly if it is to be effective.



1 With padding in place under her shoulder, and her arm at her side, the woman begins the self-examination of her breast by carefully feeling of the tissues which extend well into the armpit area.



4 When the entire outer half of the breast has been examined, with the arm at her side, the woman now raises the arm over her head. This spreads and thins the tissue better for the remaining steps.



5 Beginning at the breast bone, she gently presses the tissue of the inner half of the breast against the chest wall, moving in a series of steps from the breast bone to the middle of the breast.



FOR THE purpose of the examination, the breast may be divided roughly into three sections. Each section will receive special attention during the inspection. The *inner half* is pictured here, and it is shown as a shaded hemisphere in this top figure. Less than 20 per cent of cancers occur here.

THE OUTER half of the breast may be subdivided into two quadrants. These are referred to as the upper, and the lower, outer quadrants. The one shaded here is the *lower, outer quadrant*. From seven to fifteen per cent of all cancers of the breast are found to develop within this area.



THE *upper, outer quadrant* of the breast merits special notice. It is the shaded portion of this figure, which extends into the armpit. Tissue is thicker here than elsewhere in the breast. Most cancers of the breast occur here—some 47 per cent. The remaining 22 per cent occur in the nipple area.



STRUCTURE



ANTERIOR DISSECTION

SAGITTAL SECTION

POSITION AND STRUCTURE OF THE ADULT FEMALE BREAST

THE BREAST is shown in its partially dissected state in the upper part of the plate, and below in sagittal section. The size of the breast is variable, but in most instances extends from the second through the sixth rib, and from the sternum to the anterior axillary line, with an axillary tail in the outer and upper portion which can be palpated along the outer border of the pectoralis major muscle. The mammary tissue lies directly over the pectoralis major muscle and is separated from the outer fascia of this muscle by a layer of adipose tissue, which is continuous with the fatty stroma of the gland itself.

Fifteen to twenty-five mammary ducts open into the nipple and dilate to form ampullae just before reaching the surface. The modified mucous membrane which covers the nipple and areola is lubricated by modified sebaceous glands, which are found beneath the areola and are known as the glands of Montgomery. The mammary ducts extend radially from the nipple toward the chest wall and from them sprout variable numbers of secondary tubules, which end in epithelial masses forming the lobules or acinar structures of the breast. The number of tubules and the size of the acinar structures vary greatly in different individuals and at different periods in life. In general, the terminal tubules and acinar structures are most numerous during the child-bearing period and reach their full physiological development only during pregnancy and lactation. These epithelial structures constitute collectively the parenchyma of the gland. The stroma is composed of a mixture of fibrous and fatty tissue, and in the absence of pregnancy and lactation it is the relative amounts of fatty and fibrous tissue which determine the size and consistency of the breast. The enveloping fascia of the breast is continuous with the pectoral fascia. It subdivides the glands into lobules and sends strands into the overlying skin which, in the upper hemisphere, are known as the suspensory ligaments of Cooper.

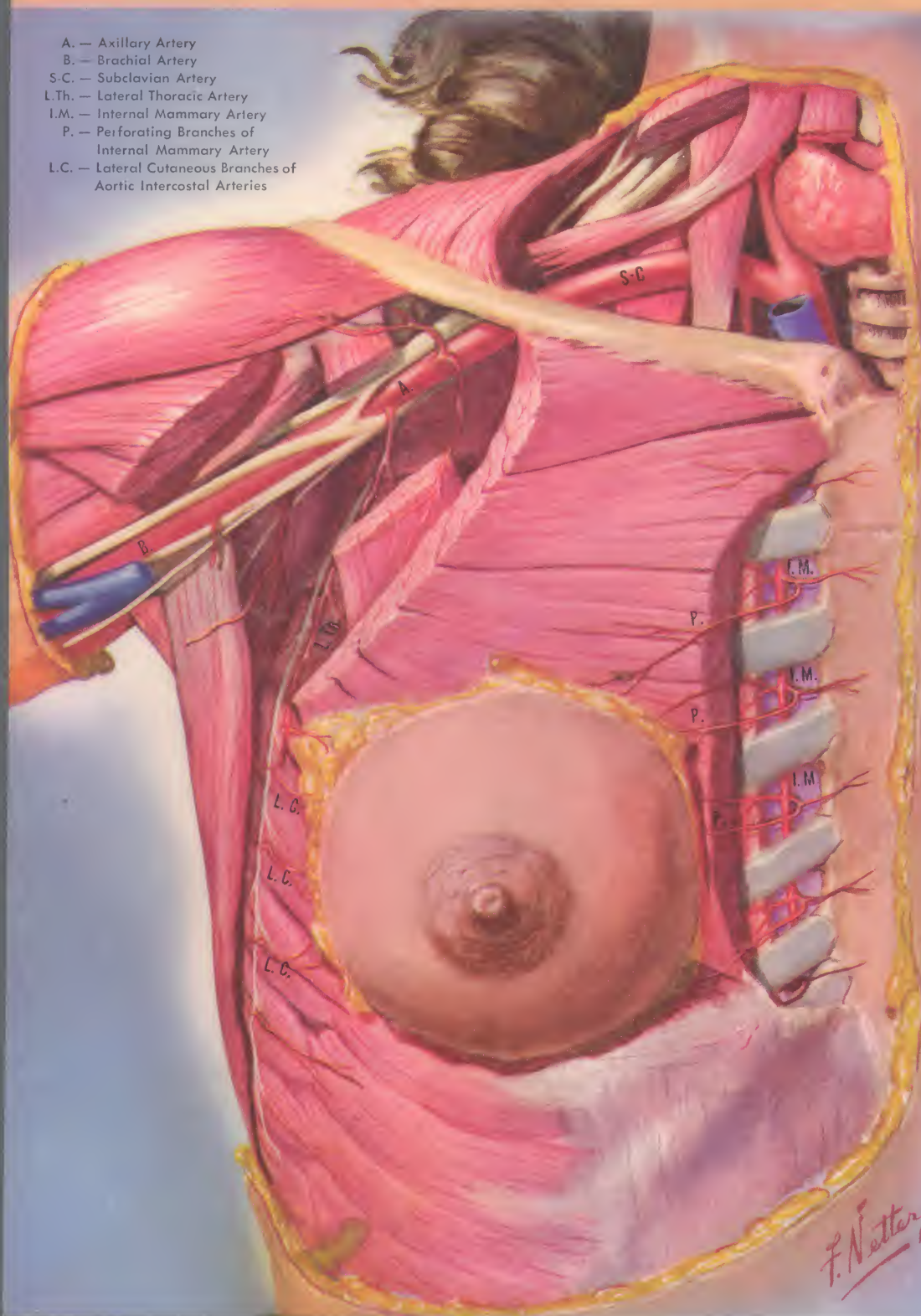


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BLOOD SUPPLY



- A. — Axillary Artery
- B. — Brachial Artery
- S.C. — Subclavian Artery
- L.Th. — Lateral Thoracic Artery
- I.M. — Internal Mammary Artery
- P. — Perforating Branches of
Internal Mammary Artery
- L.C. — Lateral Cutaneous Branches of
Aortic Intercostal Arteries



F. Netter M.D.

BLOOD SUPPLY OF THE BREAST

THE SOURCES of the abundant vascular supply of the mammary gland are: (1) the descending thoracic aorta from which the posterior intercostal arteries branch off; (2) subclavian artery from which the internal mammary artery arises; and (3) the axillary artery serving the mammary gland through the lateral thoracic, and sometimes through another branch, the external mammary artery.

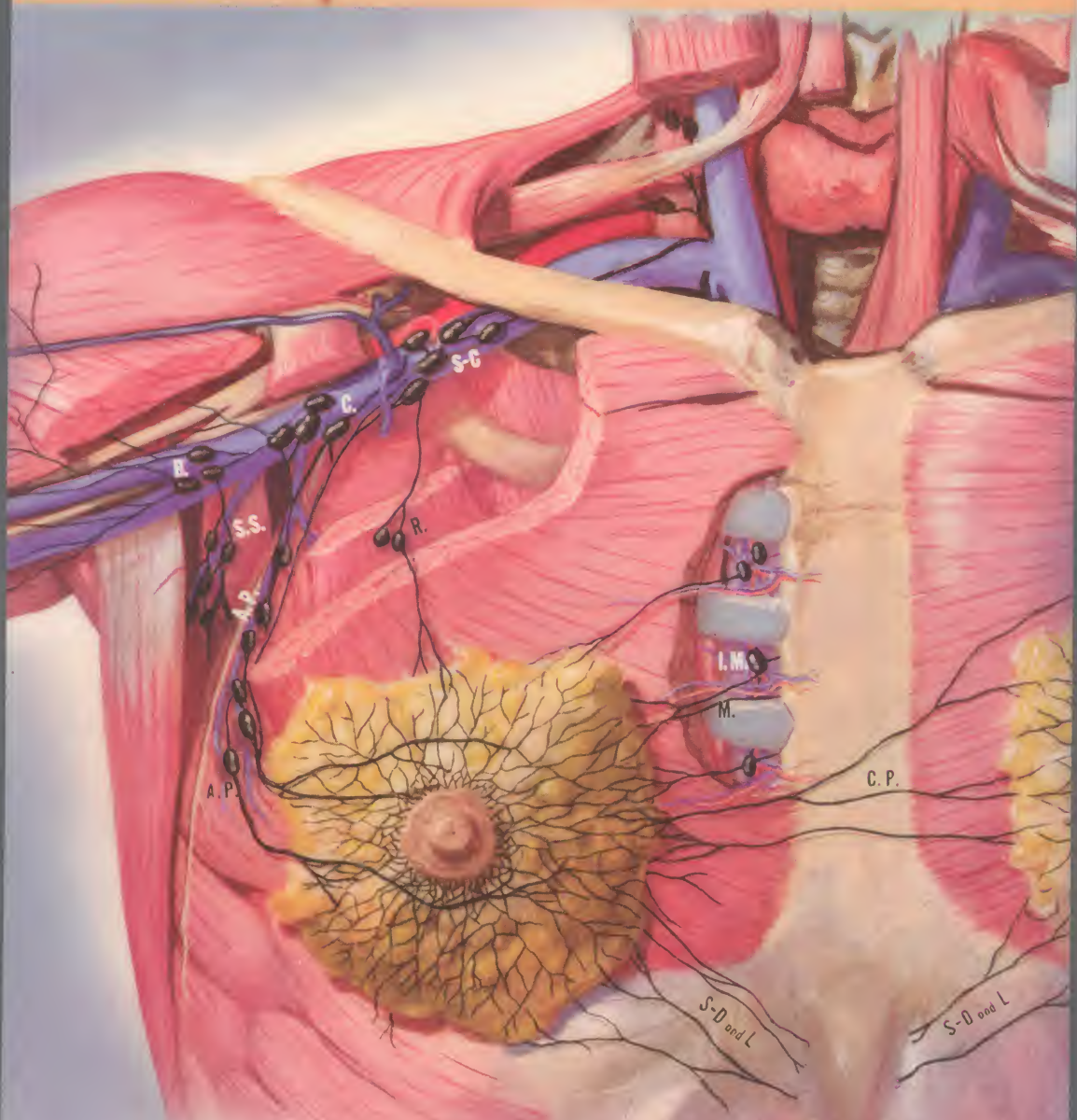
The intercostal branches of the internal mammary artery, the thoracic portion of which lies behind the cartilage of the six upper ribs just outside the pleura, provide the medial aspect of the gland. The lateral cutaneous branches of the third, fourth, and fifth aortic intercostal arteries enter the gland also laterally. The lateral cutaneous branches of the intercostal arteries penetrate the muscles of the side of the chest and then divide into anterior and posterior rami. It is the anterior rami that reach the mammary gland. An extensive network of anastomoses exists between the lateral thoracic artery and those vessels deriving from the internal mammary artery; the latter also anastomoses with the intercostal arteries, so that many parts of the gland are supplied by two or even three of the main sources. The ramifications of all three main arteries form a circular plexus around the areolas which assure the blood supply of the nipples and areolas. A second plexus from the same main vessels is formed in the deeper regions of the gland. A number of variations of this vascular distribution have been established (Maliniac: *Amer. Jl. Surg.*, 47: 329, 1943) and should be considered to avoid danger of necrosis, e.g., in circular incisions around the nipple.

The veins follow the course of the arteries.



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LYMPHATICS



- A.P. — Anterior Pectoral Nodes
- C. — Central Axillary Nodes
- B. — Brachial Nodes
- S.C. — Subclavian Nodes
- R. — Rotter's Nodes
- I.M. — Internal Mammary Nodes
- M. — Pathway to Mediastinal Nodes
- C.P. — Cross-Mammary Pathway to Opposite Breast and Axilla
- S-D. and L. — Pathway to Subdiaphragmatic Nodes and Liver
- S.S. — Subscapular Nodes

F. Netter M.D.

LYMPHATIC DRAINAGE OF THE BREAST

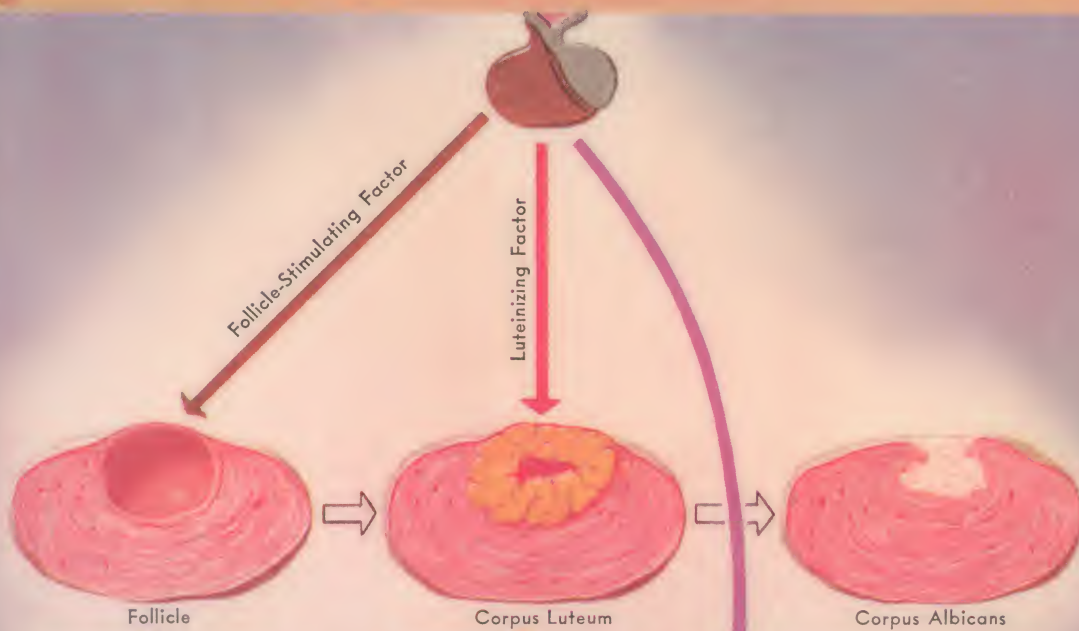
THE MAMMARY GLAND has both a superficial or subareolar plexus of lymphatics and a deep or fascial plexus. Most of the superficial plexus drains laterally toward the axilla, passing first to the anterior pectoral group of nodes, which are often referred to as the low axillary group of glands. The drainage passes thence to the central axillary nodes, which lie along the axillary vein, or to the mid-axillary nodes. From there, the drainage is to the subclavian nodes at the apex of the axilla where the axillary and subclavian veins join.

The deep fascial plexus extends through the pectoral muscles to Rotter's lymph nodes, situated beneath the pectoralis major muscle, and thence to the subclavian nodes. This is known as Groszman's pathway. The rest of the fascial plexus, for the most part, extends medially along the internal mammary artery to the mediastinal nodes. There are other paths of lymphatic drainage proceeding from the lower and medial portion of the breast. One of these is the paramammary route of Gerota, through the abdominal lymphatics to the liver or subdiaphragmatic nodes. Another is a cross-mammary pathway, via superficial lymphatics to the opposite breast and opposite axilla.



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NORMAL PHYSIOLOGY



ESTROGEN
Growth of ducts and
periductal connective
tissue

PROGESTERONE
Growth and
differentiation of lobule

LACTOGENIC FACTOR
Initiation of secretion

H. Walter M.D.

Full lactation
maintained by
mechanical effect
of suckling



PHYSIOLOGY OF THE BREAST

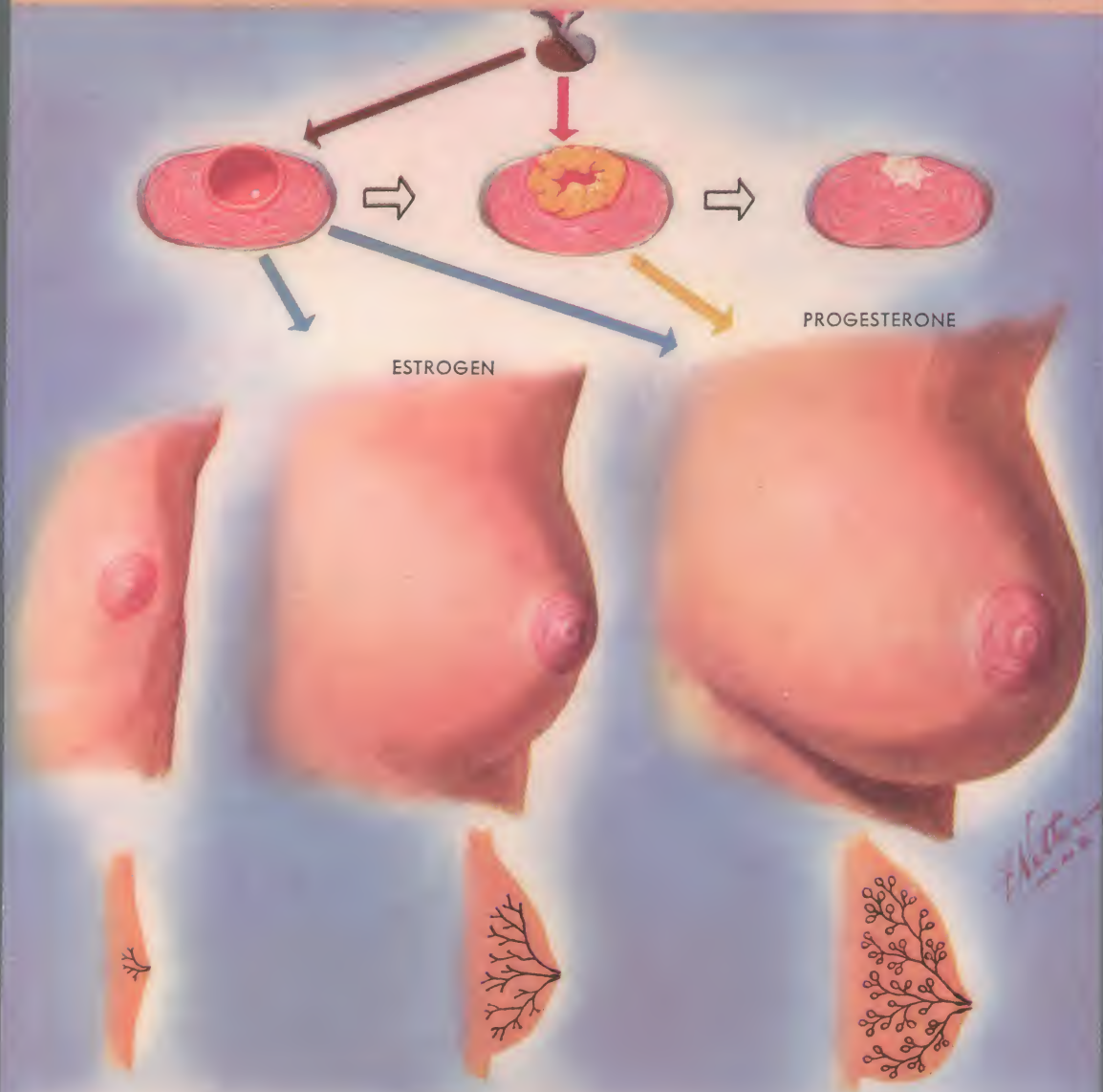
THE SECRETIONS of the anterior pituitary gland (adenohypophysis) acting in conjunction with the ovarian endocrine structures — the follicle and the corpus luteum — are major factors in the development and physiology of the mammary gland. The mechanical act of suckling is an additional factor in maintaining lactation. Indirectly, the adenohypophysis influences the growth of the mammary ducts and the periductal fibrous tissue through its follicle-stimulating hormone (FSH). This, acting on the ovary, stimulates follicular growth and estrogen output, which in turn promotes the growth of the mammary ducts and their periductal stroma. Following ovulation, with rupture of the Graafian follicle, the luteinizing hormone of the hypophysis (LH) stimulates corpus luteum formation and progesterone output which, in turn, promotes the development of the mammary lobules.

The lactogenic hormone of the anterior pituitary gland acts directly on the mammary gland, which has thus been prepared, through the growth of ducts and lobule formation, to initiate lactation. Lactation, once initiated, is stimulated and maintained through the mechanical act of suckling. There is some evidence to indicate a reciprocal relationship between the follicular hormone, estrogen, and the pituitary lactogenic hormone. During lactation, follicular ripening and ovulation are suppressed by lactogenic substances. On the other hand, if large doses of estrogen are given during lactation, simultaneously discontinuing the act of suckling, mammary secretion is inhibited. This is the rationale behind the administration of estrogen to control painful engorgement of the breasts during the puerperium.



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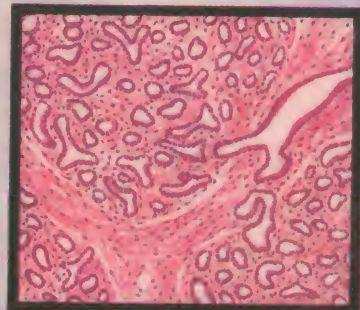
DEVELOPMENT



CHILDHOOD



PUBERTY



MATURITY

DEVELOPMENT OF THE BREAST

THE DEVELOPMENT of the mammary gland from childhood through maturity is depicted both grossly and microscopically in the illustrations. Following a brief neonatal period, when the infantile gland shows residual development from maternal hormone stimulation reaching the organ in utero, the mammary gland remains quiescent until puberty. During the period of childhood, there is no difference between the male and female gland. The breasts consist of a few branching rudimentary ducts lined by flattened epithelium, surrounded by adult collagenous connective tissue.

With the onset of puberty, and during adolescence, follicular ripening in response to the follicular-stimulating hormone of the anterior pituitary gland is accompanied by an increased output of estrogenic hormone. In response to this hormone, the mammary ducts elongate, their lining epithelium reduplicates, and there is a proliferation of epithelium at the ends of the mammary tubules, which form the sprouts of the future lobules. This growth of ductal epithelium is accompanied by growth of periductal fibrous tissue, which is largely responsible for the increasing size and firmness of the adolescent female gland.

With the onset of maturity, and probably under the influence of pituitary and ovarian factors, ovulation occurs in the ovary, which is followed by corpus luteum formation. This body is maintained by the luteinizing hormone of the adenohypophysis and secretes progesterone which acts on a gland previously stimulated by estrogen, promoting further growth of the lobular buds, so that true lobule formation and acinar structures result. This gives the mammary gland the characteristic lobular structure found during the child-bearing period.



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ANOMALIES OF DEVELOPMENT



VIRGINAL
HYPERTROPHY



POLYTHELIA



POLYMASTIA



THE MILK LINES

ANOMALIES OF MAMMARY DEVELOPMENT

MAMMARY HYPERTROPHY is a common anomaly of the breast and affects both sexes. In females the major forms of mammary hypertrophy are: (1) precocious or infantile hypertrophy and (2) virginal or gravid hypertrophy occurring respectively in adolescent or pregnant females. Precocious mammary hypertrophy is associated with endocrine disturbances of the ovary. It is bilaterally symmetrical and rarely of a marked degree. Virginal and gravid hypertrophy are of unknown origin and may be bilateral or unilateral and the affected breast may grow to enormous size. The enlarging organs are composed of increased amounts of fibrous stroma with hypertrophied ducts associated at times with lobular formation. The enlargement once formed persists. The only effective treatment is plastic surgery.

Accessory or supernumerary nipples (also termed polythelia) occur in about one per cent of female and male individuals. Most often the supernumerary nipples are found five or six cm. below the normal pair and toward the mid-line. They are usually not associated with significant amounts of mammary tissue. The accessory nipples without accessory mammary tissue are found anywhere in the course of the milk lines of the embryo. In the adult this extends from the axillary to the inguinal regions as shown in the accompanying illustration. In the regions below the breast the milk line runs medially to the normal nipple, above the breast it runs laterally to each axilla. Supernumerary mammary glands (polymastia) situated laterally are more apt to be of considerable size and to undergo normal lactation than those situated medially. Bilateral axillary breasts which are of small size may develop during pregnancy and undergo lactation. These are more common in colored than white individuals. Aberrant axillary tissue without nipple formation is more prone to malignant change than a supernumerary breast. Either benign or malignant tumors can occur in such tissue.



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I SAT AND SAT AND SAT AND SAT
 I FLUFFED MY HAIR, REFIXED MY HAT
 I CHEWED MY NAILS, I TAPPED MY FEET
 I FELT REAL COLD, THEN BURNED WITH HEAT
 I CLEARED MY THROAT, I LICKED MY LIPS
 WIGGLED MY SHOULDERS, SHIFTED MY HIPS
 TWIDDLED MY THUMBS, UNCROSSED MY KNEES
 SCRATCHED MY NOSE, STIFLED A SNEEZE
 THE MINUTES DRAGGED, THE HOURS TOO
 MY PALMS GOT DAMP, I SAT IN A STEW
 THEY CALLED MRS. JONES, MRS. HINKLESON, TOO
 (THEY HAD MY CARD, MY NAME THEY KNEW)
 MRS. SMITH, MRS. CASTERLANSING, MRS. BARD
 (MY GOSH! I THOUGHT, THEY'VE LOST MY CARD)
 MY MIS'RY D'EPEENED, MY TENSION GREW
 MY BLOOD TEMPERATURE ROR

You're
 Next
 at the
 Clinic

MY MIS'RY DEEPEENED, MY TENSION GREW
 MY BLOOD PRESSURE ROSE, MY TEM'ATURE, TOO
 I COULD NOT SMOKE, I DARED NOT LEAVE
 I PULLED UP MY STOCKINGS, THEN MY SLEEVE
 MY WATCH HAS STOPPED, I'M SURE OF THAT
 IT COULDN'T BE JUST TWO HOURS I'VE SAT

THE MAN BESIDE ME GAVE A SIGH
 THEN SOMEONE ELSE (WHY IT WAS I)
 MY SEATING PLACE HAD GOTTEN NUMB
 I SAT ON MY FOOT, CHEWED MY THUMB
 AT LAST THEY CALLED THAT FAMILIAR NAME
 I JUMPED UP FAST (GOOD GRIEF! I'M LAME)
 " MRS. PARKINGTON, THIS WAY, PLEASE"
 (NOW WHERE'D I GET THAT KNOCK IN MY KNEES?)
 "REMOVE YOUR CLOTHES, PUT THESE ON, PLEASE"
 (ONE YARD OF WHITE CLOTH! WHY, I'LL FREEZE!)
 THE DOCTOR LOOKED AT ALL I'VE GOT
 FROM HEAD TO FOOT HE MISSED NO SPOT
 HE MASHED MY THROAT, AND TAPPED MY KNEES
 HE COUNTED MY RIBS WITH THE GREATEST EASE
 NOW HERE I AM AT ANOTHER DESK
 THEY'RE BOOKING ME FOR ANOTHER TEST
 I'M IN DESPAIR, I'M LOST IN SORROW
 YOU'VE GUESSED IT RIGHT--BACK TOMORROW!
 I KNOW THAT I SHALL WAIT AND WAIT
 AT LEAST THEY WON'T GIVE ME THE GATE
 WHEN THEY GET THROUGH I'LL SHOUT AND YELL
 HURRAH HURRAH FOR THE CLINIC! THEY'VE MADE ME WELL!

By Mrs. Carl Everett



AS WE GROW OLDER

by

Dr. John Roberts Phillips
407 Medical Arts Building
Houston 2, Texas

January 10, 1957



AS WE GROW OLDER

Life expectancy has been increased from 48 years in 1900 to 69 years at this time. This twenty year gain in expectancy has been brought about by medical advances, of better public health measures and hygienic conditions. Sanitation alone, by controlling our water supply for drinking purposes, is appreciated when we make travels in foreign countries, and we find that we are not able to drink their water.

Better child care - control of diarrheas, and infections has allowed children who used to die early in life, to grow to maturity. This is a tremendous factor when we think that 4,200,000 children were born in the United States in 1956. Typhoid fever, once a dreaded disease, can be eliminated by inoculation. Wards used to be filled with this horrible disease. Now cases of typhoid fever are rare. A few days ago a case was reported here in Houston, and last year an epidemic occurred in one of the Western cities because people became lax, and failed to take their typhoid inoculations. Sometimes an epidemic like this is a good thing, for it stimulates people to protect themselves, and if they did not take the inoculations, typhoid fever could become a serious problem again. Diphtheria will be a rarity if people take the inoculations.

Death from pneumonia and influenza has been markedly reduced by the prompt use of antibiotics and chemo-therapy. Smallpox has practically gone since all school children are required to be vaccinated against smallpox before entering school. Now, before traveling in any foreign country, every one is required to have a smallpox vaccination, and no one can come in this country without having a vaccination.

Surgery has made wonderful contributions to longevity. In appendicitis alone, a very serious disease, if not treated before rupture of the appendix, the mortality has decreased markedly since prompt operation and new techniques such as nasal suction, antibiotics, blood transfusion and early ambulation have been instituted. Still there is lack of knowledge among some and carelessness about the use of laxatives in any patient who has abdominal pain until the doctor has made an examination. We are still seeing too many ruptured appendices in children and in old people. In these two age groups, the appendix can rupture within a period of hours. Control of these things and many more allow people to reach a ripe old age. By 1975 13% of our population will be over 65 years of age, or amount to about 22,000,000. Life expectancy now for those reaching 65, is about 12 more years. There will be 45,000,000 people over 50 in 1975. Then the total population will be about 220,000,000 according to

statistical calculations providing we do not have some catastrophic thing as atomic warfare.

At age 65, men are often retired, and at age 60 women retire. Women notably live longer than men by 2 or 3 years. They seem to be made of tougher material. Our real medical advances must come in the age group of 45 to 65, for at this age there is a danger of death from heart disease which occupies first place as cause of death, and accounts for about 50% of all deaths that occur. Almost everyone over 50 has sclerosing of the vessels. Among the types of heart disease, of course, are the arteriosclerotic, or hardening type of the blood vessels, rheumatic heart diseases, syphilitic heart disease and other types of heart disease also take their toll, often between the ages of 45 and 65. A great deal is being done in the study of fat metabolism, and cholesterol research is going on, for it is the cholesterol deposits in the blood vessels that lead to their narrowing and their scarring.

Industry has recognized the importance of good health. Many companies make it a policy to have an annual physical examination. If they have trained a man and developed him up to the age of 45-50, if they can increase his chances of living until 65, they have a real prize at their command,

and it is a small price for them to pay for control and prevention of disease.

Much can be done in the management of metabolism. The control of obesity, the control of diabetes, pernicious anemia, arthritis, osteoporosis, and other diseases can be markedly improved and controlled during this very valuable part of the middle life.

Second most common cause of death is cancer. Much is being done on an educational way in control of this disease. Elimination of irritative and pre-cancerous lesions, the early detection and the correction of things that are the forerunners of the disease are very important. In women a great reduction has come about in the incidence of cancer of the uterus. This is because woman are presenting themselves for routine examinations, if they are over the age of 30, twice a year. Vaginal secretions are examined by the Papanicolaou technique. The cells that are being shed are examined, and if they are abnormal cells, they can be detected by the microscopist. We used to feel that cancer of the womb occurred chiefly from 40 years on, but now we know that the average age of development of cancer of the cervix is before 40 years of age. The reason we have found this out is because of more careful examinations and biopsy - or removal of a specimen of any suspicious lesion occurring

on the mouth of the womb. At the Mayo Clinic, a routine smear examination is made on all women over the age of 30, or on all women who have borne children.

The third most common cause of death is due to disease of the blood vessels themselves, resulting in vascular accidents involving the central nervous system, in which the patient has a stroke or becomes paralyzed.

By regular examination, any change in blood pressure can be detected. Drugs have fortunately been discovered that to a great extent, lower the blood pressure. The management of older people who have strokes becomes a real problem, and many of these patients have to be confined to an institution for nursing care. It is a real problem to maintain their nutrition if they are undernourished, and in some obese patients in which paralysis occurs, it is very difficult to re-habilitate them and get them to walking and have confidence in themselves because of the increased weight. It is estimated that about 20% of the people who have strokes are overweight.

The fourth most common cause of death are accidents. Ninety-five thousand people died of accidents last year. Most of them occurred outside of industry. Industry is so well supervised, and their first-aid men are so capable that

fatalities in industry are kept to a minimal. The automobile is the great killer at the present time, and we are all familiar with the drives that are being put on to lessen this factor. Many of these accidents occur in the younger age group because of the vim and vigor and their desire to speed. There are other conditions which take their toll. Tuberculosis is on the decline because of the drugs that are being used, and because of the more active isolation of these people. Death from pneumonia and influenza is on the marked decline due to the prompt use of the wonder drugs.

Sometimes patients are a little bit critical to the profession about their end result because they have been so informed about the wonder drugs, and all the special and new advances being made, and when they don't get prompt relief, they are apt to be critical. There is still room for good sound judgement in medicine and surgery, and no set rule has ever been made that will apply to every individual. We are all biologically a little bit different. Of all the millions of people there are in the world, so far as it is known, there have never been found two fingerprints that were the same. We have talked about the things that caused death, and prior to death caused a lot of disability. There are certain other things that run no mortality and yet from a symptomatic standpoint represent a very important thing in

the aging population.

At about 45 to 48 years of age, a normal physiological process goes on in women which is characterized by cessation of menstruation. This is the period of menopause. At that time or slightly before there are certain symptoms that sometimes develop. Hot flashes which can be quite a troubling symptom occur on a relatively small percentage. Only about 20% have any particular trouble from this symptom. These symptoms are brought about by lessening of the ovarian function, the active principle of the ovary being the estrogen hormone. With the loss of this hormone, there is a loss of certain metabolic things to the body, as estrogen is well known to have a factor in the control of carbohydrate metabolism and that is a reason that women have a tendency to put on more fat about this time of life, particularly if they are not careful about watching the carbohydrate of their diet. Estrogen also has a good deal to do with the metabolism of lipids, the fats. It also has a great deal to do with osteofibrosis, which is the hardening element of bone. After the menopause, the bones have a tendency to become thinned out, the cortex gets narrower, and that is one of the reasons that fractures in older people occur so much easier because the bone is not as hard, there is not as much of the fibrous bony element. This osteoporosis, or thinning out of the

bone, is even more marked in those patients in which it was necessary to remove the ovaries before the usual time at which they would stop their function.

Arteriosclerosis is found 10 to 40 times higher in men than in women. There are a variety of other symptoms that occur at the menopause in women such as nervous tension, coldness of the extremities, some shortness of breath, fast pulse, and sometimes numbness of the extremities. There are often times emotional disturbances. For these things, estrogen orally in the form of tablets, or by injection should not be denied because upon this replacement, a preservation of the sense of well being can be had.

Gall bladder disease affects a good portion of our aging population. There are two kinds of gall bladder disease, one that is treated by medicine, and one that requires surgery. Surgery is limited largely to the acute infections and gall stones. Most of the acute infections can be associated with gall stones. Upon examination, if gall stones are found in an individual, let us say, of 40 years of age, we advise that those stones be removed even though they may not be causing symptoms, because at that time of life the patient's condition is good, and they almost certainly always cause trouble later in life or at a time

when other complicating factors of heart disease or something else may make it a serious condition. At the present time, uncomplicated gall bladder conditions can be operated upon almost as safely as doing an appendectomy, the mortality being well under 1/2 of 1%. The risk of carcinoma of the gall bladder associated with gall stones is 1 to 2%.

Certainly the risk of retaining these gall stones, with the attended risk of having to have an operation at an older age far outweighs the risk of a selected operation. This is well brought out by a recent case of acute gangrenous cholecystitis which ruptured in a man of 74 in which operation has been delayed, and it represents a very serious problem because of the generalized peritonitis, and one of the acute cases in which, when the abdomen was opened, bile and pus ran free in the abdominal cavity. So, in the future, great advances will come through research. In the meantime, our best protection is periodic examination for conditions can be found in their silent stage. The patient may have a mild case of diabetes and have no idea about it until it is found at examination. Another common thing often found on examination is a lump in the thyroid. One out of every eight cases of a lump occurring in the thyroid, turns out to be malignant. So, the finding and removal of such things as that, protects that patient against a serious hazard.

Black moles, particularly if they are in a place where they become irritated such as around the breasts, or on a foot, or hand, certainly should be removed. It is the old adage that a stitch in time will save nine, and in many cases will certainly save life.

One of the questions that is often asked, is what place heredity plays in all of these things. We inherit our genes. There is a certain susceptibility that I am sure is inherited. There is no flow of any element that says we will inherit a particular thing, but I am sure that there is a susceptibility inheritance in which, combined with internal and external factors, may lead to a development of that condition if offspring. This is beautifully illustrated by cases of cancer of the colon. Many family histories of this disease have been followed, and it is surprising to see where there is a history of a parent having a cancer of the colon that often times the offspring will develop that same condition in some part of the colon in an instance of anywhere from 33 to 50%. So, the serious diseases, the things that really kill people, almost always have a silent phase, and if individuals are checked up regularly, the silent phase of that disease can be detected, and diagnosis can be made, and treatment instituted early, and the best chance of cure of the disease can be brought about.

With the tremendous increase in the aged population, it is a problem for us all to consider because it imposes quite an economic problem. Many of the older people have to be confined to mental institutions, and it becomes a real nursing and medical undertaking. It is the duty of the physician, when he can, always to cure an individual, but as I have stated, the great advances that are going to be made, are going to be made through research, and through preventive measures. If an individual's doctor is not able to cure, than his next problem is to relieve often, and certainly, it is important for him to comfort and support always.

To live happily, when retired, we must develop earlier in life an avocation, to maintain our interest in life. Such outside lines of thought and diversion are the more successful when they bring us in contact with nature—birds, gardens, geology and the like.
—Statement to Rotary International in 1927.

* * *

War is the supreme effort of man and must be considered so, much as we abhor it. Through all the ages it has often taken the destruction and decolation of war for new ideas to enter the enlivened brains of those who possess and those possessed. Wars have served their purpose, contributing to man's ultimate advance . . . Preparedness for war must never be neglected. Warfare, recognized as the basis of advance, is a word commonly used, the warfare against dirt . . . vice . . . diseases of plants and animals. Science has contributed the knowledge of the causes of diseases and we have learned that the gross destroying diseases, diseases of the past, are under control by prevention and treatment but only through constant and directed warfare.

The World war, frightful as it was, has elevated the backward countries and made them desire to know why and how success has been obtained in the great countries of the world.

Man's life, being prolonged, we become for the first time concerned with his brain, that it may be made to last as long as his body . . . Man's future progress will be more and more, in mind, in science by appreciation of opportunity. We are now using but scattered areas of the brain and there is room for much greater mental development in future ages.—At the dedication of the Mayo Clinic carillon to the American soldier, September 16, 1928.

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Preventive medicine today, insofar as older adults are concerned, revolves around attempts to determine at the earliest possible moment presence of signs . . . not only in order that happy useful life may be prolonged but that we may grow old gracefully, as free as possible from debility and incapacity.—Magazine article in 1937.

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Counting the cost of the chemical elements in our makeup, our bodies are worth 98 cents. Too many of us are putting four-dollar meals into these 98-cent bodies. Most of us nowadays are eating not wisely but too well. We are living to eat rather than eating to live. Most of us eat too much and many eat too much of some food materials and not enough of others.—Statement to Rotary International in 1937.

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Trying to be happy by means of jazz is about as vain and unsatisfactory as trying to make a meal out of pickles and pepper. It does not afford durable enjoyment. The very tempo of jazz is feverish, exciting and conducive to the wrong pace for American life. It is sadly out of date. We need a new tempo.—Comment in 1934.

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The farm is still a good place to live on and 80 per cent of the farmers are doing well. These farmers have been careful of their machinery and buildings and did not get themselves into debt when times were better and money easy to obtain. There are 16 million acres of land that used to raise hay, oats and corn for feed for horses which have been supplemented by autos and tractors. It is no wonder that there is a surplus of these crops.—Address to Olmsted county farmers December 10, 1933.

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Great medical discoveries do not cure people of diseases. They provide only the essential knowledge and tools. The problem of public education waits when the scientist is through.—Before the Minnesota Public Health association November 25, 1933.









HAIR LIP

THESE PICTURES SHOW THE RESULT OF DR. J.R. PHILLIPS
FIRST OPERATION AT ST. JOSEPHS HOSPITAL IN 1933...



THE END

